HEALTH INSURANCE FOR THE INFORMAL SECTOR: TWO NON-GOVERNMENTAL, NON-PROFIT SCHEMES IN GUJARAT

Michael Kent Ranson

Thesis submitted to the University of London
for the Degree of Doctor of Philosophy

Health Policy Unit
Department of Public Health and Policy
London School of Hygiene and Tropical Medicine

February ~~2002~~ 2003

ABSTRACT

Policy makers generally see community-based health insurance (CBHI) as a means of improving access to expensive medical care, particularly among the poor, and preventing indebtedness secondary to medical expenditures. However, there is a paucity of empirical evidence on the impact of CBHI, and how its impact is influenced by a scheme's design, management and context.

This research examined the economic and social impact of two CBHI schemes in Gujarat, India, and explored potential determinants of impact. A case study approach was employed. Data were collected using a variety of methodologies: a cross-sectional household survey, review of insurance scheme utilisation data, focus group discussions, and in-depth interviews.

The CBHI schemes had achieved minor successes. Both provided financial protection to those who actually used the schemes and one of the schemes was successful in including the poor. These successes, however, were overwhelmed by very low rates of utilisation. Demand for membership in the schemes was determined in part by their strong links with larger parent organisations (a dairy co-operative and a worker's union) and by other services that were packaged with the health insurance. Factors responsible for low rates of health insurance utilisation included a lack of awareness among members of the schemes and their benefits, and perceived problems with the cost, quality and or accessibility of benefits provided.

The findings support a cautious approach among those wishing to foster CBHI in developing countries. Schemes should not be expected to contribute rapidly to broad health system goals. Consistent with past research on CBHI, this study finds that scheme design and management are of utmost importance in determining whether or not the scheme will have the desired impact. Specific areas are identified where government might intervene to optimise the impact of a CBHI scheme.

TABLE OF CONTENTS

List of tables

List of Figures

CURRENCY EQUIVALENTS

(January, 2002)

Currency Unit - Indian Rupees (Rs)
UK £1.00 = Rs 70.00
US $1.00 = Rs 48.31

ABBREVIATIONS

ACCORD	Action for Community Organisation, Rehabilitation and Development
AKHS	Aga Khan Health Services
CBHI	Community Based Health Insurance
CHC	Community Health Centre
CHF	Community Health Fund
CGHS	Central Government Health Scheme
DALY	Disability Adjusted Life Year
DfID	Department for International Development
ESI	Economic Status Index
ESIS	Employee State Insurance Scheme
FGD	Focus Group Discussion
GIC	Government Insurance Company
GOI	Government of India
GDP	Gross Domestic Product
GNP	Gross National Product
GTZ	German Technical Cooperation
HIPCs	Heavily Indebted Poor Countries
IIS	Integrated Insurance Scheme
ILO	International Labour Office
KSSS	Kottar Social Service Society
LSHTM	London School of Hygiene and Tropical Medicine
MHO	Mutual health organisation
NGO	Non-governmental Organisation
NRC	Nutritional Resource Centre
ODA	Overseas Development Administration
PRIs	Panchayati Raj Institutions
PI	Principal Investigator
RA	Research Assistant
RAHA	Raigarh, Ambikapur Health Association
SSSS	Saheed Shibsankar Saba Samity
SEWA	Self Employed Women's Association
SWRC	Social Work and Research Centre
TF	Tribhuvandas Foundation
UIIC	United India Insurance Company
VHW	Village Health Worker
WDR	World Development Report
WHO	World Health Organisation
WHR	World Health Report

ACKNOWLEDGEMENTS

It is incredible to look back on what at times seemed a lonely journey, only to realise that I was supported each step of the way by family and friends, old and new.

Many people gave of their time, energy and ideas in helping me to conceive and carry out this research. I am particularly grateful to Anne Mills (LSHTM) and Ramesh Bhat (Indian Institute of Management, Ahmedabad) for their supervision. Staff and members of the Tribhuvandas Foundation and the Self Employed Women's Association were unfailing in their support. In particular, I would like to thank Pragnesh Gor and Nikhil Kharod at TF, and Mirai Chatterjee, Sayeeda Chauhan, Shilpa Pandiya, and Jyoti Macwan at SEWA. Research assistance of the highest calibre was provided by: Swati Vyas, Dimple Save, Nimisha Sukhadia, Mehul Sheth, Richardson Macwan, Pratiksha Bhaskarray Bhatt, Dabhi Varsha Dalpatsing, Falguni Darji, Urmila Gonadaliya, Aruna Mayavanshi, Rana Sonal Navinkumar, Archana Vyas and Samir Macwan. Thanks to Sara Bennett, Amie Cullimore, Kara Hanson, Karina Kielman, Rajesh Mohan, and anonymous reviewers at *Bulletin of the World Health Organisation* for stimulating review comments. Chris Frost, K.R. John, Tom Marshall and Sunil Nandraj all helped by providing their comments around the methodology.

My studies at LSHTM were funded by the British Council in the form of a Commonwealth Scholarship. Financial support for my field-work was provided by the India desk of the British Department for International Development (DfID), and valuable comments provided by Bob Fryatt and Padma Kumar.

Finally, a huge thank-you to my family and friends, without whom I might not have had the motivation or the means to embark on, or complete, this study. Thanks to: Mom, Dad, Keri and my grandparents; my adoptive family in India, Rakesh Panchal and family, Divyang Sailor and family, Jignish Zala, K.F. Macwan and family, and D.K. Patel and family; fellow students and friends in London, particularly Anne Philpott and Nicola Lord.

SECTION 1: BACKGROUND

CHAPTER 1: INTRODUCTION

BACKGROUND

For over two decades, there have been calls for communities in developing countries to participate in the planning, financing, organising and operating of health care services. The Declaration of Alma Ata (International Conference on Primary Health Care 1978) implied that community participation was integral to the achievement of health for all, and stated that "primary health care requires and promotes maximum community and individual self-reliance and participation... making fullest use of local, national and other available resources". The Bamako Initiative aimed to make primary health care universally accessible through community financing and management (McPake, et al. 1992). But questions remain as to whether, how and how much poor people in poor countries can or should be expected to contribute towards the provision of health care.

The issue is of greater importance to nobody than to the poor themselves. Material wealth, health and the ability to cope with adverse health events are intimately related. The World Bank defines poverty as "encompassing not only material deprivation but also low achievements in education and health... (and) vulnerability and exposure to risk..." (World Bank 2001c, p. 15). An individual of low income may be unable to afford preventive care, or curative care in the event of illness, which may result in the worsening of his or her state of health. In the event of serious illness, the poor are particularly vulnerable to the financial burden resulting from lost income and out-of-pocket medical expenditures as they have low levels of the assets (physical, natural, and financial) necessary to cope. Disease or illness can cause an individual or household to enter a vicious downward spiral in which poor health results in the depletion of assets and low levels of assets lead to worsening health and the inability to cope with future illness episodes. In theory, government provision of health care should cover the poor, but in practice it often does not. Thus, there is a need to find ways of protecting the poor from the costs of medical care.

Community-based health insurance (CBHI) is a mechanism that allows for pooling of resources to cover the costs of future, unpredictable health-related events. It offers individuals and households protection against the uncertain risk of catastrophic medical expenses in exchange for regular payment of premiums. Prepayment (even in the absence of pooling) can facilitate access to expensive medical care because it spreads the expenditures over time, and prevents people from having to pay out-of-pocket at the time of treatment seeking. Through pooling of resources, health insurance can have a beneficial impact on equity, access and financial protection. Risk sharing occurs when the insurance premium is unrelated (or not completely related) to the likelihood that the insured will fall ill, and benefits are provided on the basis of need; hence, payments go to the sickest people. Because lower income and less educated people tend to have poorer health, they stand to gain more from insurance claims (Griffin and Shaw 1995). Cross-subsidisation occurs when premiums are indexed to income and access to health care is as good (or better) among the poor as the wealthy. In such a scenario, the wealthy subsidise the health care costs of the poor.

Policy makers hope that CBHI will contribute to the "final" health systems goals of better health, fair financing and responsiveness as proposed recently by the WHO (WHO 2000). In many developing countries, the potential for expanding or improving the health sector through increased government funding is limited due to a narrow tax base (Mills 1983). CBHI allows for pooling in those settings where institutional capacity is weak to organise nation-wide risk-pooling. This may allow a health sector that is starved for funds to tap resources that would otherwise not be available to it. A fundamental question is whether CBHI will be able to expand to cover sufficiently large populations to put to use the pooling functions – risk-pooling and cross-subsidisation.

Health insurance can also contribute to economic efficiency and equity by replacing some of the government funding for secondary and tertiary hospital services. This

may allow governments to divert resources to public health, preventive, and primary services that benefit the poor (Griffin and Shaw 1995; Normand 1999).[1] Furthermore, insurance can improve efficiency by consolidating the purchasing power of many individuals. This may facilitate the "strategic purchasing" of health care services (WHO 2000). An insurer that is acting in the best interests of its members may be willing to spend on preventive and health promotion activities, or it may negotiate with health care providers on the price and quality of services (van Ginneken 1998).

CBHI schemes are most frequently studied by economists and examined from an economic perspective. Goals and objectives are typically defined in terms of cost recovery, service utilisation and financial protection and success or failure typically attributed to scheme design and management (Bennett, et al. 1998). However, there may be much to learn by taking a more holistic look at CBHI, for example, by investigating these schemes from a social perspective. Health insurance is likely to have social costs and benefits that are excluded from the traditional economic perspective. The theoretical literature (Chapter 3) suggests that CBHI may impact on social networks, values and norms by changing: the locus of medical decision-making; the status of the allopathic medical profession; access to medical care; mechanisms of gift-giving; and the nature and prevalence of risky behaviour. And underlying the success or failure of a health insurance scheme are likely to be: aspects of scheme design and management; the nature of roles played by, and relationships between, participants[2] in the scheme; and a complex milieu of factors related to social, economic, cultural, political and health sector context. Identifying and gaining some insight into the relative importance of these factors will help to optimise the success of existing and proposed CBHI schemes. Social context

---

[1] This is an argument frequently made by CBHI advocates, but it makes optimistic assumptions about the size, equity and effectiveness of CBHI schemes, as well as the equity of government financing and provision and political economy issues that affect government resource allocation decisions.

[2] Throughout the thesis, "participant" is used to describe the various people, groups or agencies who are active, in one way or another, in CBHI schemes. It refers mostly to beneficiaries (or members), health care providers and scheme administrators, but also to government and donor representatives who play some role in the schemes.

(embodied in the concept of social capital) in particular has been cited as a factor important in the success of various institutional arrangements, including micro-credit schemes based on indigenous structures (van Bastelaer).

Health insurance can benefit India's health sector

Health insurance programmes stand to benefit the people of India, particularly the poor. Problems with India's health sector that might be helped by health insurance include: the burden imposed by out-of-pocket medical expenses, inequity, inefficiency, and poor quality.

Out-of-pocket medical expenses impose a tremendous burden, particularly among the poor. In India, private expenditure accounts for over 80% of total health care spending, and almost all (97.3%) of this represents out-of-pocket spending by households (Ellis, et al. 1996). In India, members of lower socio-economic groups tend to spend a greater share of their annual income on health than do more advantaged groups (Berman 1995; Hsiao and Dave Sen 1995; Mathiyazhagan 1998). Studies amongst poorer populations suggest that 6 to 11 per cent of annual household consumption expenditure is devoted to health care (Bhat 1993, Mathiyazhagan 1998). A single episode of non-hospitalised illness costs about 10 percent of average monthly consumption expenditure (Berman 1995). The costs of a single illness requiring hospitalisation can be devastating; the average cost of a hospitalisation (in a government hospital) varies between 40 and 160% of annual per capita consumer expenditure (Krishnan 1996).

The allocation of existing resources needs to be rationalised. Data from the late 1980s shows India to have a far higher mortality rate from communicable diseases and maternal and perinatal causes than demographically developing countries overall (470 compared to 253 deaths per 100,000 population, standardised for age; World Bank 1993). Nonetheless, secondary and tertiary inpatient care (as opposed to preventive and primary outpatient health care services) account for 43% of total public spending and 36% of private health spending (World Bank 1995, Berman

1995). Approximately 72% of India's inhabitants are rural (World Bank 2001c), yet less than half of *public* health care resources are spent in rural areas (Rao, et al. 1993). Household spending on health, in absolute terms, is roughly equal between urban and rural areas; however, income levels are substantially lower in rural areas (Berman 1995). Public health spending per capita is significantly lower in the poorer states, which also have poorer health status (Berman 1995). These patterns of resource utilisation suggest that health care spending is both inefficient and inequitable.

The poor quality of health care services is also a major issue in India. Problems with public sector facilities include: understaffing, poor hotel aspects of care and physical conditions, inadequate supply of drugs, and poor quality of drugs (Duggal, et al. 1995; Bennett and Muraleedharan 1998). Private facilities are generally perceived to be of higher quality than public, and this is reflected in the fact 80% of all outpatient visits are made to private facilities (Duggal, et al. 1995; Bennett and Muraleedharan 1998). However, "analysts, policy makers and patients alike have the impression that the nature and quality of care delivered privately varies considerably, but includes many providers who offer very poor quality services" (Bennett and Muraleedharan 1998). Studies of private sector physicians have found that many prescribe medicines and injections so as to maximise profits, often putting the patient at danger (Uplekar 1989a; Uplekar 1989b). A study conducted in 1990 in Uttar Pradesh found that only half of rural private practitioners were qualified in any system of medicine (Duggal, et al. 1995). A number of regulations have been passed to promote quality of care in the private sector (Bhat 1996) however enforcement is largely ineffective.

Health insurance coverage in India is limited

Private for-profit health insurance, only recently allowed in India under the Insurance Regulatory Development Authority Act of 1999, is largely unavailable. The Government of India's social and voluntary insurance schemes (described in Chapter 2) target workers in the organised sector, who comprise not more than ten

percent of all workers (van Ginneken 1998). Together, these schemes cover approximately 42 million people. The only government initiative to cover the informal sector has occurred in Goa (1991 population of only 1.17 million), where the State Government has purchased insurance through the Government Insurance Company (GIC) to cover the hospitalisation needs of all permanent residents with an annual income below Rs 50,000 (Wyatt and Bhat 1997). In total, no more than 3.3% of total health care expenditure flows through the various governmental health insurance schemes (Berman 1995). Expansion of government schemes outside of the formal sector is unlikely both due to logistical difficulties in organising premium collections and targeting subsidies (Kutzin 1997), and because insurers view the poor as "bad risks" and an unreliable source of premium payments (Hauck 1998).

Non-governmental, non-profit organisations can provide health insurance to the informal sector

> *Community based health care programs which combine insurance with provision of services offer the best hope for reducing the financial burdens of the large segment of India's population in the informal sector while rationing scarce resources (Ellis, et al. 1996, p. 26).*

Non-governmental, non-profit organisations provide health care to approximately 5% of the Indian population (Hsiao and Dave Sen 1995). Some of these NGOs have implemented prepayment health insurance schemes (described in Chapter 3). There are a number of reasons as to why NGOs should make good insurers for poor populations (adapted from van Ginneken 1998):

- they know the needs of their client groups so they can develop appropriate strategies to assist them;
- they typically involve beneficiaries in the design and implementation of programs;
- effectiveness of health insurance schemes may be enhanced by other aspects of the NGOs' work, for example, in the fields of employment and education;
- because they are non-profit, they can provide health insurance at lower cost than

for-profit insurers.[3]

In their paper, Hsiao and Sen (1995) suggested that social capital might facilitate the success of health insurance schemes in India. This issue has not been addressed in subsequent empirical work.

Knowledge gaps

Cost may make health care unaffordable to the poor, and in the event of serious illness, the poor are particularly vulnerable to the financial burden resulting from lost income and out-of-pocket medical expenditures. In developing countries, governments often fail in their responsibility to cover the poor, as in India where the bulk of health care spending is private, out-of-pocket spending by households. CBHI has the potential to offer individuals and households protection against the uncertain risk of catastrophic medical expenses, but it is not widely available in India or elsewhere. Fundamental questions remain regarding the impact of CBHI, the factors underlying its success or failure, and whether it will be able increase coverage of the poor.

A number of investigators have documented the non-governmental, non-profit health insurance schemes in India and elsewhere (Chapter 3). Most primary studies of CBHI schemes have failed to assess impact beyond superficial indicators on which data are easily accessible. For example, arguably the most thorough evaluation of non-governmental, non-profit health insurance schemes in India (Dave 1993) measured equity based on whether or not schemes graded premiums according to income, and evaluated risk-sharing based on whether or not there were mechanisms in place to prevent adverse selection. Stinson (1982, p. 11) in his pioneering review of community-based financing initiatives, commented: "studies of successful community finance must consider both process and outcome; this review found few details about either." Have CBHI schemes improved access among the poor to expensive medical services? Has CBHI protected these populations from the

---

[3] There is an opposing line of argument that NGOs are less efficient as they are not motivated to produce a profit.

high costs of medical care? Aside from these economic goals for CBHI, do the main actors envision any social consequences – for example, creating a preference for allopathic versus traditional forms of medicine, or increasing the empowerment to partake in medical decision-making? What kinds of factors, in terms of scheme design and management and the broader context in which the schemes operate, help or hinder progress? How important is the social context, and social capital more specifically? It is these questions that this thesis, in a small way, attempts to address.

PURPOSE AND CONTENTS OF THESIS

Purpose

The aim of this research is to contribute to the body of knowledge regarding the potential consequences of health insurance and the factors that may determine the performance of health insurance schemes. The new information generated is intended to be useful to policy makers both in choosing between different mechanisms of health care financing, and in optimising the design and management of CBHI schemes and allowing for the broader context in which they operate. Gaps in previous research are addressed by six specific objectives:

1/ To evaluate two Indian CBHI schemes in terms of their impact on the frequency of hospitalisation. *It is hypothesised that CBHI will increase the frequency with which members are hospitalised by removing some component of the financial barrier to seeking inpatient care.*

2/ To evaluate the two CBHI schemes based on the extent to which they protect member households from the costs of inpatient care. *The hypothesis related to this objective is that the costs of inpatient care are financially burdensome (i.e. resulting in indebtedness, impoverishment) and that by covering some portion of these costs, a CBHI scheme will confer financial protection.*

3/ To further assess the schemes on the basis of coverage (inclusion of the poor) and equity of access to scheme benefits. *It is hypothesised that welfare-oriented*

CBHI schemes will include the poor in their membership and will ensure that the poor use services provided under the scheme.

4/ To examine whether or not there are additional goals that participants in the CBHI schemes (including target populations, scheme administrators, health care providers, governments and external donors) feel these schemes should fulfil. *The hypothesis related to this objective is that traditional economic indicators of success do not capture the full effects of health insurance schemes as they are anticipated or perceived by participants (e.g. empowerment, community participation, social cohesion).*

5/ To explore contextual factors, and aspects of the CBHI schemes' design and management, that participants associate with the schemes' success or failure. *The hypothesis related to this objective is that aspects of the social, political, economic and health systems environment, along with scheme design and management, contribute to the success of CBHI schemes. Social capital, in particular, is hypothesised to facilitate enrolment in, and financial sustainability of, CBHI schemes.*

6/ In the light of research findings, to identify implications for NGOs, government and external aid agencies as to whether CBHI schemes of the type studied should be expanded or replicated, and if so, the contextual factors that will facilitate their success.

Contents

The thesis is divided into four major parts. The remainder of Section 1 provides background information and outlines the purpose, scope and methodology of the research. Chapter 2 describes patterns of health care financing and resource allocation in India, and evaluates these functions in terms of resource mobilisation, efficiency, equity and financial protection. Chapter 3 identifies goals and objectives of non-governmental, non-profit health insurance schemes, and the factors that underlie their success or failure, based on theoretical and empirical literature from India and elsewhere. Chapter 4 describes and justifies the choice of research methodology.

Section 2 presents results pertaining to Tribhuvandas Foundation's (henceforth TF) hospital referral scheme. Chapter 5 assesses the impact of TF's hospital referral scheme based on data collected from households in Kheda District using an interview-administered questionnaire. Impact is measured in terms of: (1) population reach, particularly inclusion of the poor; (2) hospital utilisation during the one-year period preceding the survey; and (3) annual cost of hospitalisations, conditional on reporting one or more hospitalisations. Chapter 6 assesses the impact of TF's hospital referral scheme based on an analysis of all bills submitted by Shri Krishna Hospital for the fiscal years 1996/97 through 1999/2000. Chapter 7 explores the goals and contextual determinants of TF's hospital referral scheme based on focus-group discussions and in-depth interviews conducted with participants.

Section 3 presents results pertaining to SEWA's Medical Insurance Fund. Chapter 8 uses the same impact indicators as Chapter 5 in analysing the results of the household survey. Chapter 9 assesses the impact of the Fund based on an analysis of all claims filed after July 1st, 1994. Chapter 10, like Chapter 7, presents results of the focus-group discussions and in-depth interviews.

Section 4 consists of two chapters. Chapter 11 discusses the strengths and weaknesses of the study's methodology and compares findings between the two case studies. Chapter 12 presents substantive conclusions about the two case studies as well as theoretical conclusions that are of relevance elsewhere. Policy implications and areas for further research are then suggested.

The results chapters (Sections 2 and 3, Chapters 5 through 10) each present a particular sub-study, and are presented largely as free-standing scientific papers, each with a summary, introduction, methodology, results and discussion section. To avoid excessive repetition, the introduction and methodology sections are kept very brief, as the relevant information is provided in Chapter 3 and Chapter 4.

respectively. The results chapters include discussion around the scheme-specific findings presented in that chapter. while discussion that compares the two schemes is presented in Chapter 11.

CHAPTER 2: HEALTH CARE FINANCING AND RESOURCE ALLOCATION IN INDIA

SUMMARY

This chapter describes patterns of health care financing and resource allocation in India, and evaluates these functions in terms of resource mobilisation, efficiency, equity and financial protection. In India, there are two predominant pathways of health care financing. The bulk of resources (roughly 85%) flow from individuals and households directly to health care providers (predominantly private) in the form of out-of-pocket payments. Public resources, the second most important source of health care financing (central, state and local governments contribute 13%) are typically used for the provision of health care through the multi-tiered system of public providers.

Total resource mobilisation for health care (public and private combined) is more than 5% of gross domestic product (GDP), which is high in comparison to other low-income countries. However, public spending in India is comparatively low at only 0.7 to 0.9% of GDP. Both private and public systems are allocatively inefficient, as most spending is on curative care, which fails to address adequately major disease threats. Technical efficiency of both systems is low because of the variable, but generally poor, quality of care available through the private sector, and poor input mix (with high expenditures on salaries) in the public sector. The system overall is highly inequitable. As a percentage of their income, the poor pay more to finance health care; direct taxation to finance the public system is progressive, but out-of-pocket expenditures – for example, on user-fees, medicines, transportation – are generally regressive. Rates of health care utilisation, both ambulatory and inpatient, are far higher among the wealthy than the poor, and the poor use care of lesser quality. Because most health care spending is out-of-pocket, opportunities for risk-pooling and cross-subsidisation are limited. Thus, health care expenditures, and those for inpatient care in particular, pose a tremendous burden on households, and are a major cause of indebtedness and impoverishment, particularly among the poor.

Community based health insurance (CBHI) has the potential to improve health care financing and resource allocation in India. Aspects of CBHI that are particularly important to its success in impacting on health system goals include: prepayment for health care, pooling of resources that is horizontally and vertically equitable (thus allowing for cross-subsidisation from low-risk to high-risk, and from wealthy to poor), and strategic purchasing.

INTRODUCTION

India has a population of over one billion. Gross national product (GNP) per capita is approximately 450 US$ (1999) and GNP at purchasing power parity is 2,149 US$ (1999), comparable to that in Armenia (2,210 US$), Nicaragua (2,154 US$) and Indonesia (2,149 US$) (World Bank 2001c, Table 1). Of the 63 countries ranked by the World Bank as "low income", India has the eighth highest GNP measured at PPP (of the 56 for which data were available; China ranks number one). According to World Bank figures, in 1998 there were more people in India living on the equivalent of less than $1 a day (in terms of 1993 purchasing-power parity) than in any other country. India accounted for 400 million of 1,175 million living on less than $1 a day globally (Working Group 5 of the Commission on Macroeconomics and Health 2001, p10).

In terms of levels of health, India is characterised by tremendous diversity:

> *Some states compare well with middle-income countries, whereas others fare much worse. Kerala is a clear outlier—its health status is comparable to that of upper middle-income countries such as Trinidad, Argentina, and Mauritius. Most Indian states, by contrast, are comparable to lower-middle-income countries such as Brazil, Egypt, and Peru. The poorest performing states compare with poor countries such as Sudan, Nigeria, and Tanzania (Peters, et al. 2001, p. 149).*

Similarly, within states, health status differentials between urban and rural populations and between higher and lower income groups remain quite large. In general, relative to its population, India shoulders a large portion of the world's disease burden (Table 2.1), particularly child and maternal deaths, and disease burden due to tuberculosis, leprosy, and immunizable diseases.

Table 2.1: India's share of the World's health problems (percent)

Indicator	Percent
Population	17
Total deaths	17
Child deaths	23
Maternal deaths	20
Disability-adjusted life years lost	20
Childhood vaccine preventable deaths	26
Persons with HIV	14
Tuberculosis cases	30
Leprosy cases	68

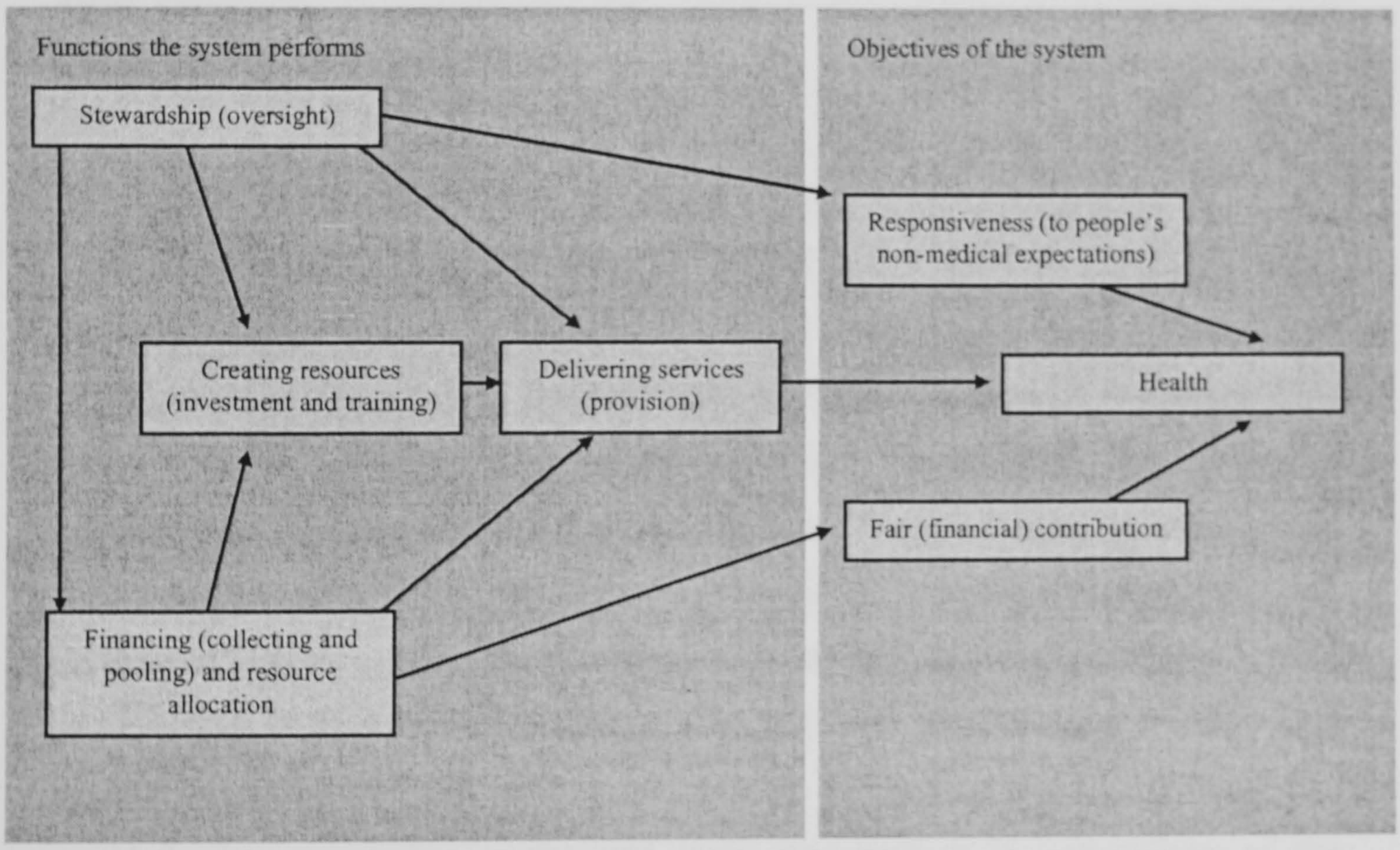
Sources: Adapted from Peters, et al. 2001, p. 144

The World Health Report 2000 describes four main functions, and three main objectives of a health system (Figure 2.1; WHO 2000). This provides a useful framework insofar as it illustrates how the functions of a health care system can be evaluated in terms of "final outcomes" (or "objectives"), and generates thought around "instrumental variables" that might be more easily assessed. The purpose of this chapter is to describe and evaluate the patterns of health care financing and resource allocation in India. Financing refers to the raising of revenue to pay for the operation of the health system. More specifically, I will look at: the sources of financing (the various entities who provide resources for the system); the agents or intermediaries who collect money to pay providers on behalf of consumers; and the methods used by sources and agents in mobilising resources.[1] Resource allocation refers to the flow of resources to health care providers, either from sources or agents, including the mix of services purchased and how these services are paid for. In the WHR 2000, it is argued that the "final goals" of health, responsiveness and fair financing, are each intrinsically valuable, and should be used as indicators of health system performance (p. 24). The report acknowledges that "instrumental goals" such as affordability, equity, accessibility, sustainability and quality are often used as performance indicators where data on the final goals is unavailable. This chapter will evaluate health financing and resource allocation in India based on four

[1] The term "agent" is used throughout the thesis in reference to entities that collect money to pay providers on behalf of consumers.

instrumental goals: resource mobilisation; allocative and technical efficiency of resource use; equity; and financial protection of individuals and households (the latter two are very distal indicators, and together comprise "fair financing" as defined by the WHO).

Figure 2.1: Relations between functions and objectives of a health system



Source: Adapted from WHO 2000, p. 25.

Section 1 describes the recent evolution of the health care system. Section 2 examines the financing function of India's health system and Section 3 the resource allocation function. Section 4 I discusses the implications of the current patterns of financing and allocation in terms of resource mobilisation, efficiency, equity and

financial protection.[2] Finally, Section 5 discusses problems of the system (categorised by the four instrumental goals from Section 4) that might be addressed using community-based health insurance (CBHI).

The data presented in this chapter are generally drawn from the published literature. In some cases, values drawn from different sources (for example, for public sector spending on health as a percentage of GDP) are inconsistent or contradictory. These inconsistencies highlight the problems with data availability and quality that hinder any attempt to evaluate health care financing and resource allocation in India. To avoid confusion, an attempt has been made in this chapter to comment on any inconsistent data that are presented.

EVOLUTION OF INDIA'S CURRENT SYSTEM OF HEALTH CARE FINANCING

Today, health care in India is largely privately financed, individually purchased by fee-for-service payment, privately produced, and unregulated. Since Independence (1947), the Government of India has fairly consistently espoused a philosophy of heavy state responsibility for providing health care, to the extent that the Indian health system was classified by Roemer (1991) as "welfare oriented". In fact, with its heavy reliance on the private sector, and its *laissez faire* regulatory environment, it seems to fit best into Roemer's category of "entrepreneurial and permissive". This section will highlight some of the factors that have shaped India's health care system, including:

- Under-investment by central and state governments in comparison to the growing population's health care needs;
- Policies that have either ignored or helped the private sector;
- A growing middle-income class; and
- Private sector's involvement in curative care.

---

[2] Section 4 draws heavily on analyses recently conducted by Peters, et al. (2001) at the World Bank, Delhi.

The British Imperial government provided medical care out of concern for its own armed forces and civilian administration (Duggal and Antia 1993). With the advent of provincial governments after the Government of India Act 1919, a medical network developed. As in many other colonised countries, the provision of health services became associated with the state. Thus, by 1941, 2,150 hospitals and 5,291 dispensaries were in existence, and only 7.6 per cent of all institutions were in the private sector (Duggal and Antia 1993, p. 54).

The Bhore Commission Report (1946) laid down the principle that primary health care is a basic right to which people should not be denied access due to inability to pay or other socio-economic reasons. The Commission established primary health care as the foundation for the national health care system, and developed the first patterns for primary health care facilities and health personnel in the public sector (Peters, et al. 2001, p. 25). Various articles in the Indian constitution refer to the state's obligation to provide effective provision of health care and to regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health as among their primary duties (article 47 as described by Bennett and Muraleedharan 1998). From the very beginning, resource allocations from the government for health were well below what was advocated by the Bhore Committee (Berman and Khan 1993).

In part responsible for under-investment in health after independence was the Bombay Plan written by five of India's top businessmen in 1944 (including J. R. D. Tata and G. D. Birla, hence the plan is also known as the Tata-Birla Plan). The Plan influenced Nehru's economic policy after independence, resulting in investment in heavy industry and economic infrastructure under the belief that such participation by the state in economic production would evolve a socialist society. As a result there was under-investment in the welfare sector (health, education, social security, and so on). In the health care services sector, the government allowed the private practice of medicine to flourish. Further, the government subsidised the growth of private medical practice by financing the training of medical personnel in excess of

the number that could be employed (at salaries competitive to those in the private sector) in the public sector (Duggal and Antia 1993, p. 55). As well, a large percentage of doctors employed in the public sector practice privately, often using government hospitals to treat their private patients (Nandraj 2000, p. 14).

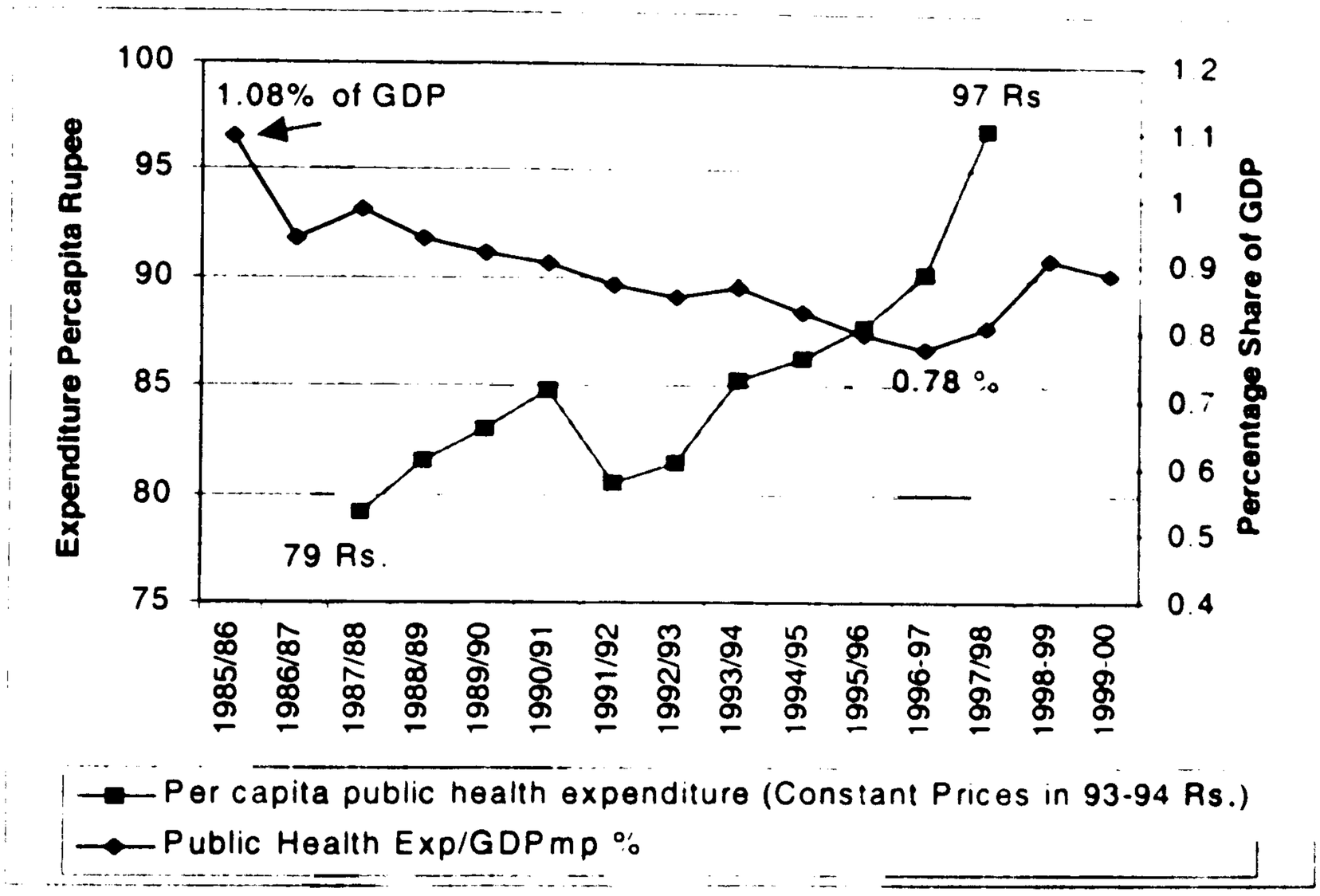
With rising incomes (in certain population groups) and educational opportunities since independence, there has been a rapid increase in the availability of private health care and the ability to pay for it. This is reflected in the growing number of qualified allopathic physicians in urban (and to a lesser extent rural) areas and the private hospitals and nursing homes that they have created. In 1974 16.0% of all hospitals were in the private sector (16.2% of beds) but, within a decade, in 1984 private hospitals had grown to 42.3% of all hospitals (26.7% of beds), and by 1988, the proportion of private hospitals had further increased to 56.0% and hospital beds to 30.0% (Duggal and Antia 1993, p. 56).

Public spending on health care has long been outweighed by private spending. Duggal and Antia (1993, p. 60) report that public spending accounted for 13% of total health spending in 1944, and four years after independence in 1951-52 this figure remained unchanged. Recently, since 1991, India has been implementing a series of economic reforms involving greater reliance on market mechanisms, including deregulation and reduction of government controls, greater autonomy of private investments, less use of the public sector, and opening up of the economy to international trade. It is perhaps not surprising then that public sector spending, relative to GDP, continues to fall (Figure 2.2).

These national averages of health care spending mask considerable variation between and within states. State and local governments also play an important role in managing and financing health care. According to Article 47 of the Constitution of India, health is a State subject (Rao Seshadri 2001, p. 9) and this is reflected in public health care spending, the bulk of which comes from state (as opposed to central and municipal) governments. While the central government does initiate and

finance some health programs, it is the state government's responsibility to implement such schemes. Each state can formulate its own health policies. In practice state governments function within the parameters of the National Health Policy (1983), which is based on the assumption that primary care is a basic right, and it is the business of government, through the public primary care network, to provide the necessary services (Rao Seshadri 2001, p. 9).

Figure 2.2: Public sector spending on health, 1985-86 to 1999-00



Source: Peters, et al. 2001, p. 128

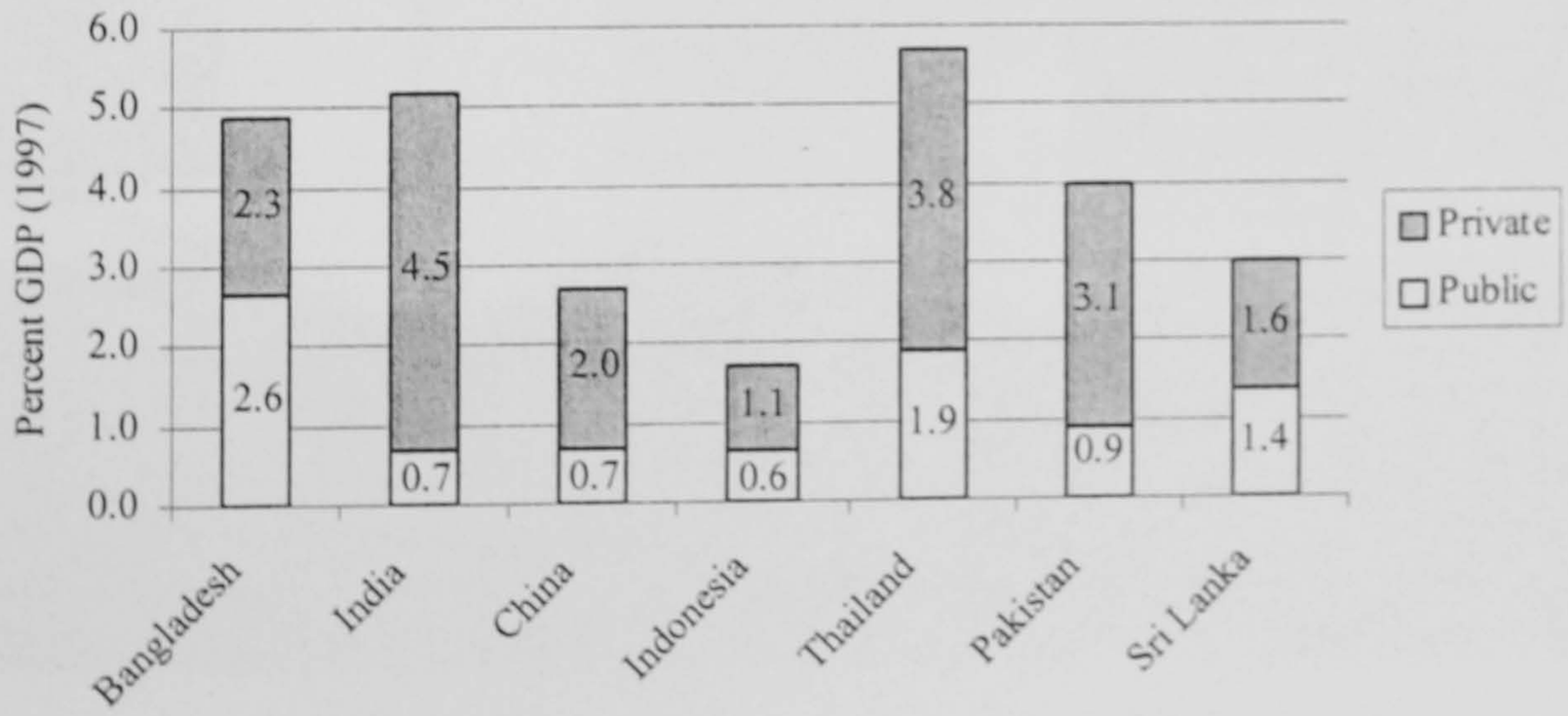
Local governmental bodies have also played a role in shaping the health care system. Wherever in India political parties have been successfully organised at a local level, the improvement of health facilities has been used as a means of gaining political ground. The most obvious examples are Kerala and West Bengal. Meanwhile, in parts of India (like Bihar) with dormant local democratic institutions, rural primary health facilities have received less from government (Jeffery 1993, p. 222). The 73rd Constitutional Amendment (1993) empowered the Panchayati Raj Institutions (PRIs) and laid down guidelines for the devolution of powers to the PRIs. This system operates councils at the district, block and village levels which should ultimately

adopt responsibility for a variety of local-level functions including health care. Health is an important area for such devolution of financial and implementing powers, but the provisions of the 73rd Amendment have not been uniformly implemented in all states.

Sources of financing

Total expenditure on health as a percentage of Gross Domestic Product is currently estimated at 5.2% (WHO 2000). This is high in comparison to other low-income countries (Figure 2.3) – India ranks 15th in terms of total health expenditure among the 63 countries classified as low-income by the World Bank (WHO 2000). Total health care spending in neighbouring countries is generally lower: 2.7% of GDP in China, 4.0% in Pakistan, and 4.9% in Bangladesh.

Figure 2.3: Health expenditure as a percentage of GDP (estimates for 1997): Select Asian countries (1997)

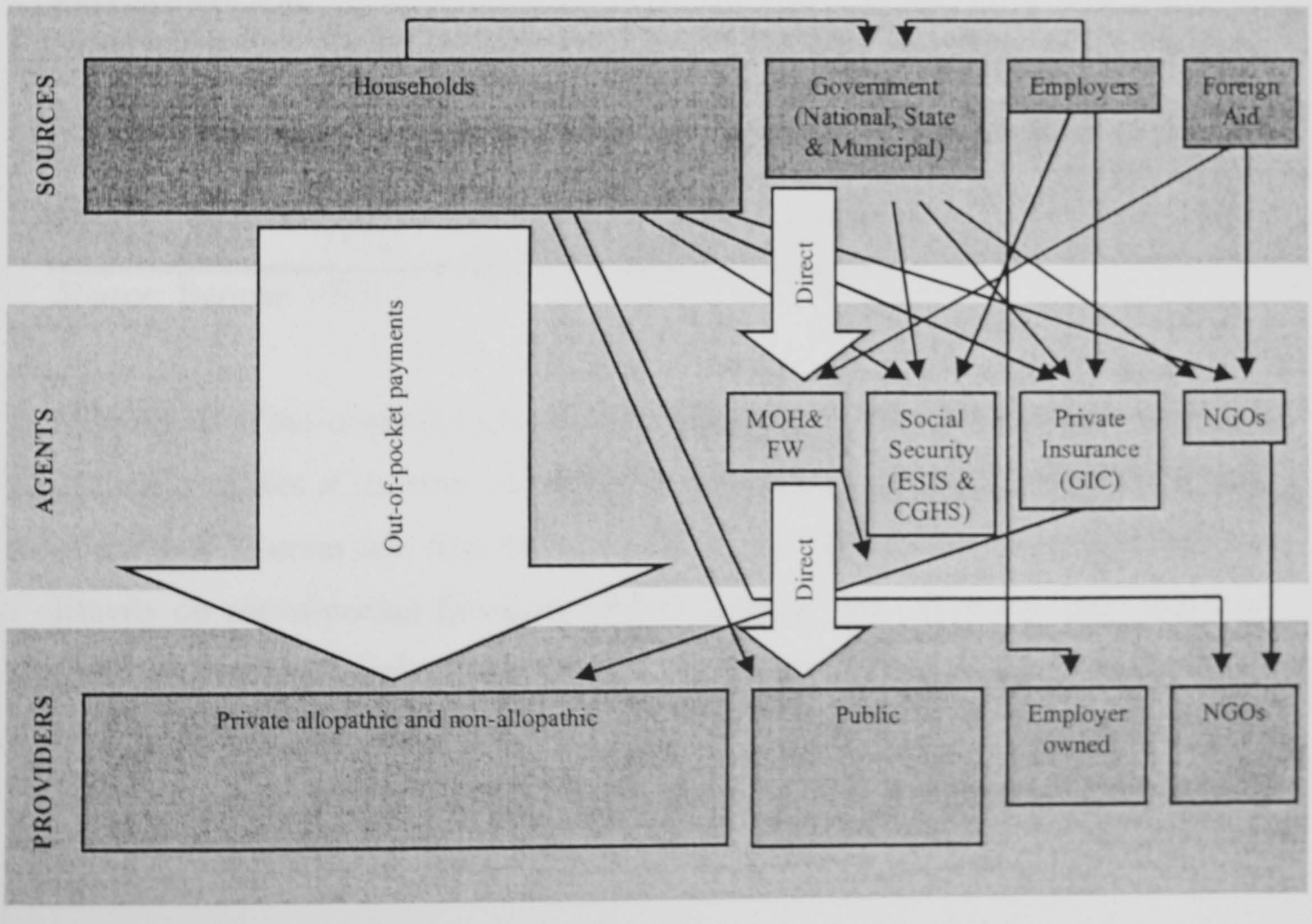


Source: WHO 2000, Annex Table 8.

Figure 2.4 illustrates the flow of resources between the main financing sources and agents and health care providers. Today, there are two main pathways of health care

financing. The bulk of resources flow from individuals and households directly to health care providers (predominantly private) in the form of out-of-pocket payments. Public resources, the second most important source of health care financing, are typically used for the provision of health care through the multi-tiered system of public providers.

Figure 2.4: Financial relationships among main actors in the Indian health sector



There are four major sources of financing in the Indian health system: government revenues (national, state and municipal) make up roughly 20%; foreign aid makes up less than 1%; employer contributions make up 2%; and household expenditures

make up 75% (Table 2.2).[3] Figures from the World Health Organisation (2000, p. 193) suggest that by 1997 there was an even greater reliance on private sources, with some 87.0% of total health expenditure private and only 13.0% public (as in Figure 2.3).

Table 2.2: Estimate of total health expenditure in India, 1990-91

Source	Total (Rs. crores)	Per capita (Rs.)	% of total	% of GDP
PUBLIC SECTOR				
Center	554	6.6	2.1%	0.1
States	4,981	59.3	18.6%	1.1
Municipalities	126	1.5	0.5%	<0.1
External aid	118	1.4	0.4%	<0.1
Sub-total	5,779	68.8	21.5%	1.3
PRIVATE SECTOR				
Out-of-pocket	20,160	240.0	75.2%	4.5
Private employers	319	3.8	1.2%	0.1
ESIS contributions	202	2.4	0.8%	<0.1
Other sources	361	4.3	1.3%	0.1
Sub-total	21,042	250.5	78.5%	4.7
TOTAL	26,821	319.3	100.0%	6.0

Source: Berman 1995

High levels of out-of-pocket spending are fairly common in low income countries; in 30% of countries at incomes below $1,000 per capita, out-of-pocket is 60% or more of the total whereas less than 10% of middle and high income countries depend so heavily on out-of-pocket financing (WHO 2000, p. 96). Globally, only four low-income countries (Cambodia, Democratic Republic of Congo, Myanmar and Sierra Leone) have higher dependence on private financing of the health sector (WHO 2000). Surveys suggest that 7 to 9% of annual household consumption expenditure in India is on health care (Bhat 1993, p. 177).

---

[3] Data from 1990-91 are presented here, as this is the most recent year for which such a comprehensive breakdown of sources was available. Note that total spending on health in 1990-91, at 6.0% of GDP (*Table 2.2*) was higher than in 1997, at 5.2% of GDP (WHO 2000, p. 193).

Public funding of the health care system (central, state and local, combined) is very low in comparison with international norms, and with some neighbouring developing countries. Public expenditure on health care represents only 0.7% of GDP and 3.9% of total public expenditures (WHO 2000, p. 193).[4] Figures of public health spending, as a percentage of GDP, for some of India's neighbours include: 2.3% in Bangladesh, 1.9% in Thailand, 1% in Vietnam, 0.9% in Pakistan, and 0.7% in China (WHO 2000).

The source of most public funding in India is the state governments. Central funding for public health services constitutes less than 25% of the total expenditure for such services while states cover more than 75% of direct health service provision (Naylor, et al. 1999; Peters, et al. 2001; Duggal, et al. 1995). However, this breakdown varies considerably from one state to another, as states vary up to tenfold in their per capita spending on health according to Naylor, et al. (1999, p. 3) versus a maximum of fourfold according to Peters, et al. (2001, p. 141) and Berman (1995). Peters, et al. (2001, p. 128) report that public spending in states like Kerala and Punjab is twice that in Bihar, Madhya Pradesh and Uttar Pradesh. The poorest states in India (Bihar, Madhya Pradesh, and Uttar Pradesh) spend the least on health care services. The central share of health spending is considerably more equally distributed (on a Rs. per capita basis) but is slightly tilted away from the poorer states. In the states, investment has declined from 7% of total state budget to 5.5% during the 1990s (Kumar 2001).

Financing of care by local bodies ("municipal bodies" in large cities) also constitutes a small but important source of public funds. These local bodies provide less than 1% of health sector resources nationally (Table 2.2). However, studies have shown that these municipal bodies spend approximately 40% of their total expenditures on health, including water supply (38% in a 1989 study of 157 municipal bodies and

---

[4] These estimates are for 1997, and differ for the estimate for 1990-91 presented in *Table 2.2*. Some other recent estimates suggest that public spending is slightly higher, at 0.9% of GDP in 1999 (Kumar 2001).

40.20 per cent in a1974-75 study of 1,533 municipal bodies; Duggal and Antia 1993, p. 62). In Bombay City (1993-94 data) 10% of expenditures by the Municipal Corporation were on public health (not including water supply), representing 82% of total public health spending (Chauhan, et al.1997, p. 69).[5]

Other sources are of lesser importance. The private corporate sector reportedly provides benefits to tens of millions of Indians (Duggal and Antia 1993; Ellis, et al. 1996). However, no significant study of this sector's financing of health care has been done.

Agents and mechanisms of collecting resources

Agents are of relatively little importance in India. Almost all of household (or "private") health expenditures are made as out-of-pocket expenditures directly to the health care provider. The World Health Organisation (WHO 2000) estimates that 85% of total health expenditures in India are made "out-of-pocket" by consumers. Thus, a maximum of 15% of all health care resources are channelled through agents.

Central government revenues are collected (1991 data) by goods and services taxes (35.5%), tax on international trade and transactions (28.8%) and income, profit and capital gains taxes (15.4%; World Bank 1993, Table 12). Most public funds are transferred directly to the Ministry of Health and Family Welfare. A small percentage of government health moneys will flow through social security plans – this was 6.7%, central and state combined, in 1982-83 (Rao, et al. 1993), and some small portion is undoubtedly contributed to non-governmental organisations.

Social insurance coverage in India is limited. Most is provided through the Central Government Health Scheme (CGHS) and Employee State Insurance Scheme (ESIS). CHGS is a contributory health scheme, introduced in 1954, that provides comprehensive medical care to the central government employees and their

---

[5] Bombay is a relatively wealthy municipality.

dependants. Some 4.4 million beneficiaries were covered under the scheme in 1996 (Peters, et al., 2001, p. 135). The GOI heavily subsidises the CGHS. The contribution from employees varies from Rs. 5 to 50 per month (it is unclear whether this is income related). The ESIS, which became operational in 1952, is an insurance system providing both care and medical benefits to poor factory workers and dependants. Coverage as of 1998 was 35.4 million people (Peters, et al., 2001, p. 134). Employers contribute to the ESIS an amount equal to 4.75% of the wages payable to employees, while employees contribute 2.25% of their wages. State governments contribute a minimum of 12.5% of the total ESIS expenditure on medical care in their respective states (Naylor, et al. 1999, p. 10).

Private insurance coverage is very limited. Four national insurance companies (falling under the control of the semi-autonomous General Insurance Company, or GIC) offer a full range of insurance types with health being a very small share of their total. As of the end of calendar year 1995, there were 1.8 million persons covered under the GIC's Mediclaim (medical insurance) policy. Premiums are generally provided directly by households, and in 1996 ranged from Rs. 175 to 5,770 per year (for coverage from Rs. 15,000 to 300,000 per year; Naylor, et al. 1999). Individuals are eligible for a rebate on income tax up to a sum of Rs. 10,000 per year.

Managed care also exists to some degree. Several large hospitals have developed prepayment insurance schemes to attract and retain patients. For example, the Apollo Hospital in Madras set up the Apollo Health Association in 1986. Under this scheme, a family of four members is entitled to hospitalisation cover of up to Rs. 17,600 for an annual premium of Rs. 999. According to the current managing director of GIC, the company will move into managed health care, tying up with hospitals and settling bills directly with them (Mayur 1998). Managed care is also available through a number of voluntary organisations, and is discussed below.

Ellis, et al. (1996) estimate (based on minimal data) that 30 million people may presently be enrolled in some form of NGO prepayment "plan". NGOs have reportedly used a variety of innovative financing mechanisms to recover costs and yet at the same time provide for poor populations (Bhat 1993; Dave 1993; Giridhar 1993; Pachauri 1994). No recent study of total health spending by NGOs in India is available. Peters, et al. (2001, p. 135) state that, "Most are financed from patient collections, government grants, donations, and such miscellaneous items as interest earnings or employment schemes.

RESOURCE ALLOCATION

In this section, I will examine patterns of resource allocation by three purchasers of health care: individuals/households, government (through the MOH&FW) and NGOs. I will focus on the broad types of goods and services purchased, and how these are paid for (e.g. fee-for-service, capitation, global budget, etc).

Types of health care purchased by individuals/households

In general, private health care is more widely and readily available than public health care, in both rural and urban areas. Private providers include outpatient and inpatient facilities; unqualified and qualified doctors, and practitioners of allopathic and traditional systems of medicine. It has recently been estimated that there are 67,000 private hospitals in all of India, comprising 93% of all hospitals and 64% of the hospital beds nation-wide (Peters, et al., 2001, p. 21). In addition to these allopathic inpatient facilities, it is estimated that there are another 2,800 hospitals (and 46,000 beds) under the Indian systems of medicine, the vast majority of which are in the private sector. Current estimates are that there are between 400,000 and 470,000 allopathic doctors, with about 80 to 85% working in the private sector (Peters, et al. 2001, p. 21). As well, as many as 85% of "public sector" doctors are also practicing in the private sector (Peters, et al., 2001, p. 21, citing Chawla 2000). Of the 120,000 doctors estimated to be practicing Indian systems of medicine in 1981 (ayurveda, unani, siddha, amchi, naturopahy, and yoga as well as homeopathy), about 85% are in the private sector. "Conservative estimates" put the

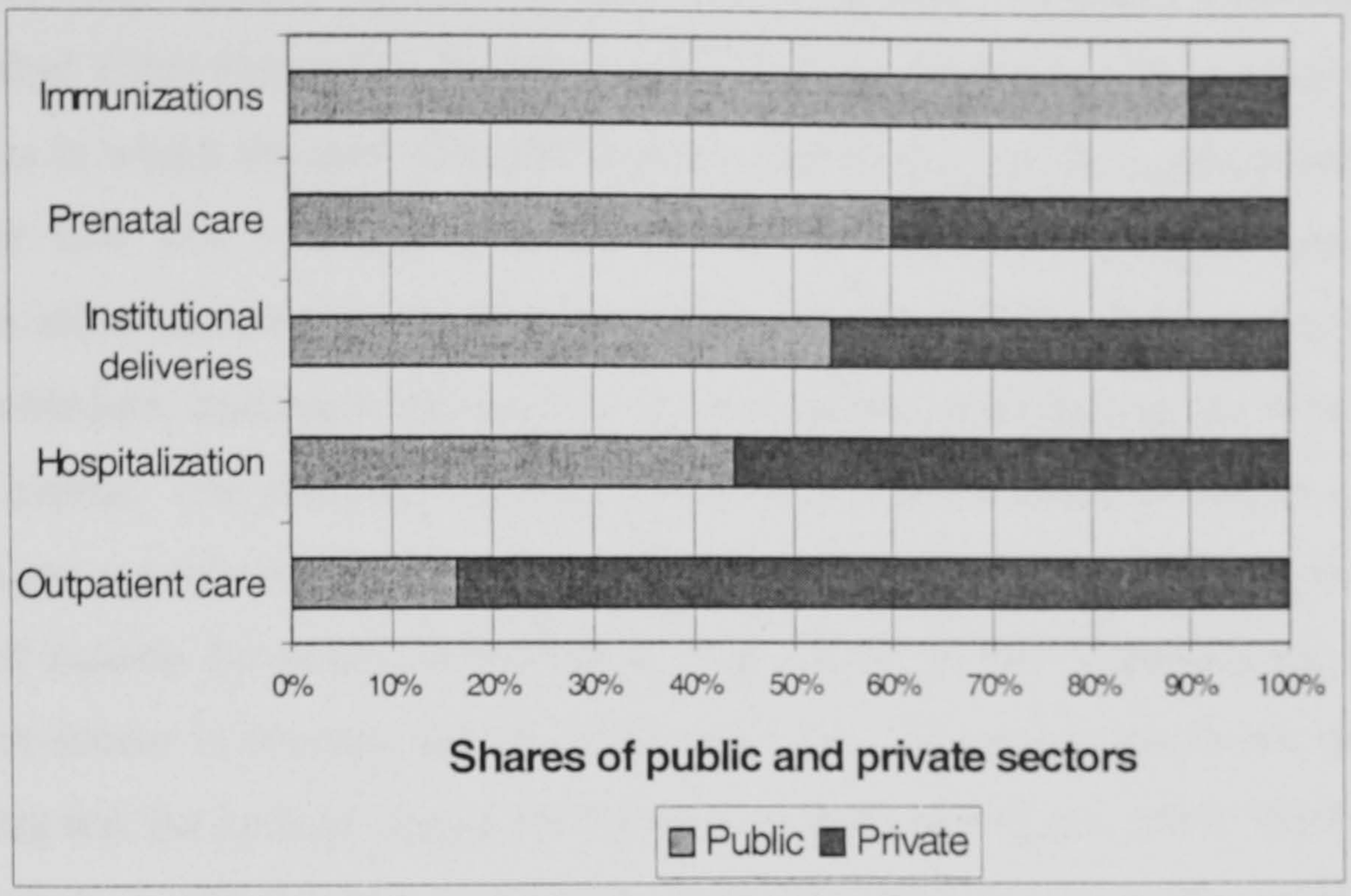
number of non-qualified rural medical practitioners at 1.25 million; almost all are solo practitioners located in outpatient settings (Peters, et al., 2001, p. 21, citing Rohde and Viswanathan 1995). The majority of qualified solo practitioners practice in urban areas. Unqualified practitioners, faith healers, traditional birth attendants, priests and local medicine women and men largely cater for rural areas (Nandraj 2000, p. 5).

In both rural and urban areas, the majority of people (over 80%) use the private sector for outpatient curative services, and some 56% use the private sector for hospitalisation (Figure 2.5; Peters, et al., 2001, p. 22, citing 52nd Round NSSO survey). People of higher income are more likely to use private health facilities. Sundar (1995) found that among those in the highest income category (over 1993 Rs. 54,000 annually), private facilities accounted for 69% (rural) and 75% (urban) of providers, while corresponding figures for those in the lowest income category (below 1993 Rs. 18,000) were 51% and 52%. There is evidence from many studies of the poor quality of care provided by the private sector, including: "problems with diagnostic and treatment practices, inadequate facilities and equipment, over-prescribing and subjecting patients to unnecessary investigations and interventions, charging patients exorbitantly, unethical and irrational practices, and failure to provide information to patients" (Nandraj 2000, p. 6). Principal advantages of private facilities are their accessibility, with better locations and more convenient hours; better sanitation and maintenance; and more courteous treatment. In the public health facilities, the availability of medicines is frequently negligible, the equipment in many hospitals is often obsolete and unusable, and the buildings are in a dilapidated state (Sharma 2001).

Most private health care resources are spent on provision by the private sector, and on primary curative care in particular. An estimated 70% of direct household expenditures go to private practitioners (Duggal and Antia 1993).

According to Bhat (1999) one-third of private health care expenditure is on secondary and tertiary in-patient care, the rest meeting curative needs at the primary level. This is consistent with figures provided by the World Bank (1995) suggesting that two-thirds of household health spending is on primary care (Table 2.3; note that this table does not distinguish between public and private health care providers).

Figure 2.5: Public and private sector shares in service delivery across India, 1995-96



Source: Peters, et al., 2001, p. 22

Table 2.3: National health spending: sources and uses; percentage of national health expenditures (and percentage for each source)

Uses	Sources					
	Central Gov't	State & Municipal	Total Public	Corporate 3rd Party	Households	Total
Primary – Preventive and Public Health	4.0 (65)	2.7 (17)	6.6 (30)	0.0 (0)	2.4 (3)	9.0 (9)
Primary – Curative	0.4 (6)	3.0 (19)	3.4 (15)	0.8 (24)	45.6 (61)	49.8 (50)
Secondary & Tertiary Inpatient Care	0.9 (15)	8.4 (54)	9.3 (43)	2.5 (76)	27.0 (36)	38.8 (39)
Nonservice Provision	0.9 (15)	1.6 (10)	2.5 (12)	0.0 (0)	0.0 (0)	2.5 (3)
Total	6.1 (100)	15.6 (100)	21.7 (100)	3.3 (100)	75.0 (100)	100.0 (100)

Source: World Bank 1995.

How health care is purchased by individuals/households

Most payments to private providers are either by consultation fee or payment for medicines only. Bhat (1999) found that 70% of private allopathic physicians (in Ahmedabad City) charged a fee-for-service and the remaining 30% charged on a case basis in which the total charges depend upon specific services procedures (it is not clear how this is different from fee-for-service). For inpatient care, most hospitals allow doctors to set their own fees (Muraleedharan, 2000). Tariffs are rarely published, making it difficult for the consumer to compare prices or to know what to expect. For alternative private practitioners (practitioners of Indian systems of medicine and untrained/unqualified allopathic practitioners) user fees are the main source of income for nearly 90% (Peters, et al., 2001, p. 89). User-fees are also an important source of revenue for the NGO providers. Many doctors do not charge a consulting fee, but instead charge for the sale of medicines (Kapil 1988; 1990). This may lead to irrational and potentially harmful treatment, e.g. the overuse of injections and antibiotic medications.

Types of health care purchased by the public sector

Most public spending flows directly from the Ministry of Health and Family Welfare to the multi-tiered system of public providers. The central government budget almost entirely finances the direct costs of the family welfare program, a primary care program focussed on family planning and population control (Naylor, et al. 1999). The central government is responsible for health in the Union Territories and plays an important role in supporting and assisting state governments with health care planning, policymaking, and delivery. In addition, the Ministry of Health and Family Welfare oversees several disease control programs that are national in scope, including malaria, tuberculosis, blindness, leprosy and HIV/AIDS (Naylor, et al. 1999). Approximately 65% of resources from the central government are allocated to preventive care (Table 2.3). The state governments provide the majority of funding and management for tiered systems of rural health services: subcenters, primary health centers, community health centers, and rural hospitals. States also have the responsibility for urban health services, which generally include larger

referral hospitals and some publicly funded primary care services (Naylor, et al. 1999). The bulk of resources from state governments – roughly 54% (Table 2.3) – are spent on secondary and tertiary care. Government contracting with private providers is rare, and has generally been limited to support services (e.g. hospital maintenance, catering, laundry) and diagnostic services (Mills, et al. 2001, p. 122-3).

The amount of public resources received by tertiary hospitals is disproportionately high relative to "need" for these facilities (Mahapatra and Berman 1995). Hospitals consume 34% of health care expenditure in Andhra Pradesh. Of this, secondary level hospitals consume 17% and tertiary level hospitals 16%. Thus, the tertiary hospitals drew about 49% of total hospital expenditure. According to calculated "norms", the maximum share of tertiary level hospitals in hospital expenditure should have been 34%. A review of government health department's plan expenditure on hospitals revealed that the secondary level hospitals were consistently allocated a lower share of plan resources. A case study of Rajasthan shows that in 1990-91, one-fifth of the total State health budget was taken up by the medical colleges alone and their attached teaching hospitals (Gupta 1997, citing Purohit and Rai 1992).

Public spending is biased towards urban rather than rural areas. The additional investment in health care in urban areas by municipal bodies contributes to this bias (Duggal, et al. 1995). Rao, et al. (1993, p. 107) estimate that in 1982-83, public expenditure (central and state, but excluding municipal) was spent predominantly in urban areas, with 54 to 65% of all funds being spent in urban areas. Berman (1995), based on 1991 data collected by the National Council for Applied Economic Research in 1991, estimated that government health spending per capita in urban areas was, on average, almost three times higher than in rural areas. This difference was accounted for entirely by hospital-based services (which includes inpatient care plus primary ambulatory treatment, obstetric and family planning services); expenditure on non-hospital services was almost identical in per capita terms between rural and urban areas. Although 75% of India's population live in rural

areas, rural residents capture just 67.6% of the net benefits from curative care (Peters, et al. 2001, p. 120). This figure seems generous, but probably reflects the fact that rural residents make up a significant proportion of the beneficiaries of urban spending (Berman 1995, p. 12).

A relatively small (?) percentage of MOHFW expenditures go to NGOs; however, this is a very important source of financing for the NGOs. Berman and Dave (1996) report that, "the government's involvement in financing of the NGO health sector within India is widespread and significant" (p. 37). In this study of four NGO's providing health care services in different parts of India, the other major source of financing (than government) was user-fees. According to this study, government support for NGO health programmes has developed in an ad hoc manner. The NGOs have responded to various schemes and opportunities for public financing as they became known or were made available to them. Public financing may range from grants earmarked for, or tied to, certain services to large general budgetary support or deficit grants. Government financing mechanisms vary significantly from state to state and reflect a mix of objectives including medical training, inpatient care for the poor, family planning, and community-based nutrition programmes, among others (p. 39).

How health care is purchased by the public sector

A large percentage of public spending is in the form of salaries to government employees. "Typically, within a state's health budget more than 70% would go for recurrent expenses such as salaries and administrative costs (Bennett and Muraleedharan 1998). Rao, et al. (1993, p. 119) estimate that about half of the total public expenditure in 1982-83 was used for the payment of salaries, while about 18 per cent was spent on drugs and materials. Duggal, et al. (1995, p. 836) in their study of seven public programmes in eight states, found that general salaries consume "an exceptionally large proportion of expenditure on all activities" with programme-specific means ranging from 55% to 83%.

Health care purchased by NGO agents/insurers

Compared with public and private-for-profit hospitals, NGO-owned hospitals are more likely to be located in rural areas and seem to be relatively efficient (Bhat 1993; Bhat 2001). In 1987, about 10% of the hospitals in India were owned by voluntary agencies, accounting for 13% of the system's hospital beds. There is limited evidence to suggest that NGOs are more efficient in their allocation of resources. Bhat, et al. (2001) found that in Gujarat State, grant-in-aid hospitals (i.e. non-profit, NGO-run hospitals that receive government funding) are relatively more efficient (they looked both at technical and allocative efficiency) than district level (public) hospitals. Berman and Dave (1996) found that NGO hospital services were operating at lower costs than public hospitals, but within the range reported for private-for-profit hospitals.

RESOURCE MOBILISATION, EFFICIENCY, EQUITY AND FINANCIAL PROTECTION

Resource mobilisation

Total health spending in India is high in comparison to most other low-income countries. However, many argue that current public health spending is not sufficient to achieve health system goals. And state government resource constraints persist as a major impediment to increasing health spending in the poorest states. According to the World Bank's Health, Nutrition and Population Sector Strategy (1997), "concern is warranted if public expenditure is less than 2% of GDP.... Such countries are probably not allocating a sufficient share of national resources to providing poor populations and other vulnerable groups with protection against illness" (p 24). A recent analysis by Gupta, et al. (2001) estimated that if Heavily Indebted Poor Countries (HIPCs) are to achieve International Development Goals (commitments made by the UN membership at global conferences in the first half of the 1990s) through increased public spending alone, public spending would need to rise in HIPCs from an average of 2% in 1999 to 12% in 2015 (note that India is not one of the HIPC countries). Under the new national health policy, aggregate health

expenditure would be increased to 6% of GDP by 2010 from the current 5.2% (Sharma 2001).

Efficiency

It is very difficult to assess the efficiency (both allocative and technical) of the resources that flow from households directly to health care providers. Data from the late 1980s show India to have a far higher mortality rate from communicable diseases and maternal and perinatal causes than demographically developing countries overall (470 compared to 253 deaths per 100,000 population, standardised for age, respectively) (World Bank 1993). Despite this, a low percentage of private health spending (3%; Table 2.3) is accounted for by "primary-preventive and public health" services. Patients, due to a lack of information about their own health and the costs and benefits of health care, are generally believed to be in a weak position to be strategic purchasers. The technical efficiency of monies spent on private sector health care will vary tremendously between providers, but may be low where the quality of health care is low.

Most private providers in India are paid by fee-for-service. In settings where the demand for health care exists, fee-for-service payments create perverse incentives for health care providers to expand the number of cases seen and the intensity of service provided, and to provide more expensive services and drugs. Allocative efficiency may suffer as the provider may provide the mix of activities that will have the greatest impact on his/her income rather than on the patient's health. For example, two studies (see Muraleedharan 2000) have attributed "alarmingly" high caesarean delivery rates to the fee-for-service payment system prevalent in private hospitals. Those doctors who are paid only for medications have the incentive to medicate irrespective of diagnosis. One study in Satara district, Maharashtra (data from 1991 to 1994) found that "private doctors more frequently prescribed irrationally, relied on drug manufacturers for their "continuing medical education" (which inevitably diverted practice away from national health programmes), and selected medicines for commercial rather than clinical reasons...private

prescriptions of ineffective injections or unnecessarily expensive brand name products are commonplace" (Collier 1996). In a survey of private allopathic physicians in Ahmedabad City, Bhat (1999) found that the "over-prescription of drugs" was the undesirable practice cited as being most prevalent in the private sector (p. 31).

The allocative and technical efficiency of public health expenditures in India appear to be low (at least at the state level). Contributing to this is what Mills, et al. (2001, p. 36) refer to as, "over-complex and unmanageable financing systems" created by the mix of state and federal financing for health care:

> *Furthermore... bureaucratic systems focused upon control (by the centre) rather than enabling local level action. This control focus meant that bureaucratic rules, particularly relating to budgetary and financial systems, were commonly very cumbersome (Mills, et al. 2001, p. 36).*

Almost one-half of public health spending (43%; Table 2.3) is on secondary and tertiary inpatient care. Public health spending per capita is lower in the poorer states and in rural areas, which also have poorer health status. A 1992 report by the World Bank noted that:

> *...public health financing in India is characterised by an emphasis on "hospitals" (all institutions above community health centers, CHCs), rather than "primary care" (all services from CHCs down); urban rather than rural populations, medical officers rather than paramedics (again with an urban bias); services that have larger private rather than social return; and family planning and child health to the exclusion of wider aspects of women's health (Banerji, 1994, p. 154).*

The Government of India is soon to update its national health policy (the first update since 1983). The draft policy acknowledges past inefficiency, and states that 55% of government's investment in health care should go to primary care, while secondary and tertiary sectors would get 35% and 10% respectively (Kumar 2001; Sharma 2001). Government expenditure on medical research will be raised from currently 0.3% of total health spending to 1% by 2005 and 2% by 2010. Both technical and allocative efficiency are hindered by the very large percentage of resources that are committed to staff salaries – resources cannot easily be shifted from one intervention

to another, one geographic area to another, or from staff to other categories of expenditure (e.g. medicines, physical infrastructure, medical supplies, etc.). According to Mills, et al. (2001, p. 33), "it was widely recognised that government employed an unnecessarily (inefficiently) high number of unskilled staff in its health facilities" and "remote primary health centres were unable to fill many posts whereas facilities in urban areas were often overstaffed".

Equity

Overall, the health care system in India is highly inequitable. The equity of a health system is optimised when there is both equity of financial contribution and equity of access to benefits. Equity of financial contribution occurs when payments into the system correlate with one's ability to pay – so that the wealthy pay an equal, or larger percentage of their income than do the poor – and payment is unrelated to the probability of falling ill. Equity of access to benefits means that benefits are provided on the basis of medical need, and are at least as accessible to the poor relative to the wealthy.

In India, out-of-pocket spending on health care is generally regressive. This means that for the same service, lower income groups pay a higher share of income than higher income groups. An NCAER study of 1990 found that the poorest 40% of rural households spent, on average, Rs. 157 per illness when receiving care from government doctors and Rs. 131 when purchasing care from private doctors. The richer 60% of the population paid less for government doctors, Rs. 137, and more for private doctors, Rs. 215 (almost certainly, the cost of both public and private care would be demonstrated to be regressive if expressed as a percentage of income). Similarly, data collected by the NCAER in 1993 suggest that expenditure per illness episode of ambulatory care is regressive. The difference in average income between the poor (annual income of 1993 Rs. 18,000 or less) and the wealthy (annual income of 1993 Rs. more than 54,000) is at least 3-fold, while the average expenditure per illness episode was only 1.7 times higher among the wealthy, both in rural and urban

areas (Sundar 1995, p. 82). It is likely that the collection of resources through taxation is fairly progressive.

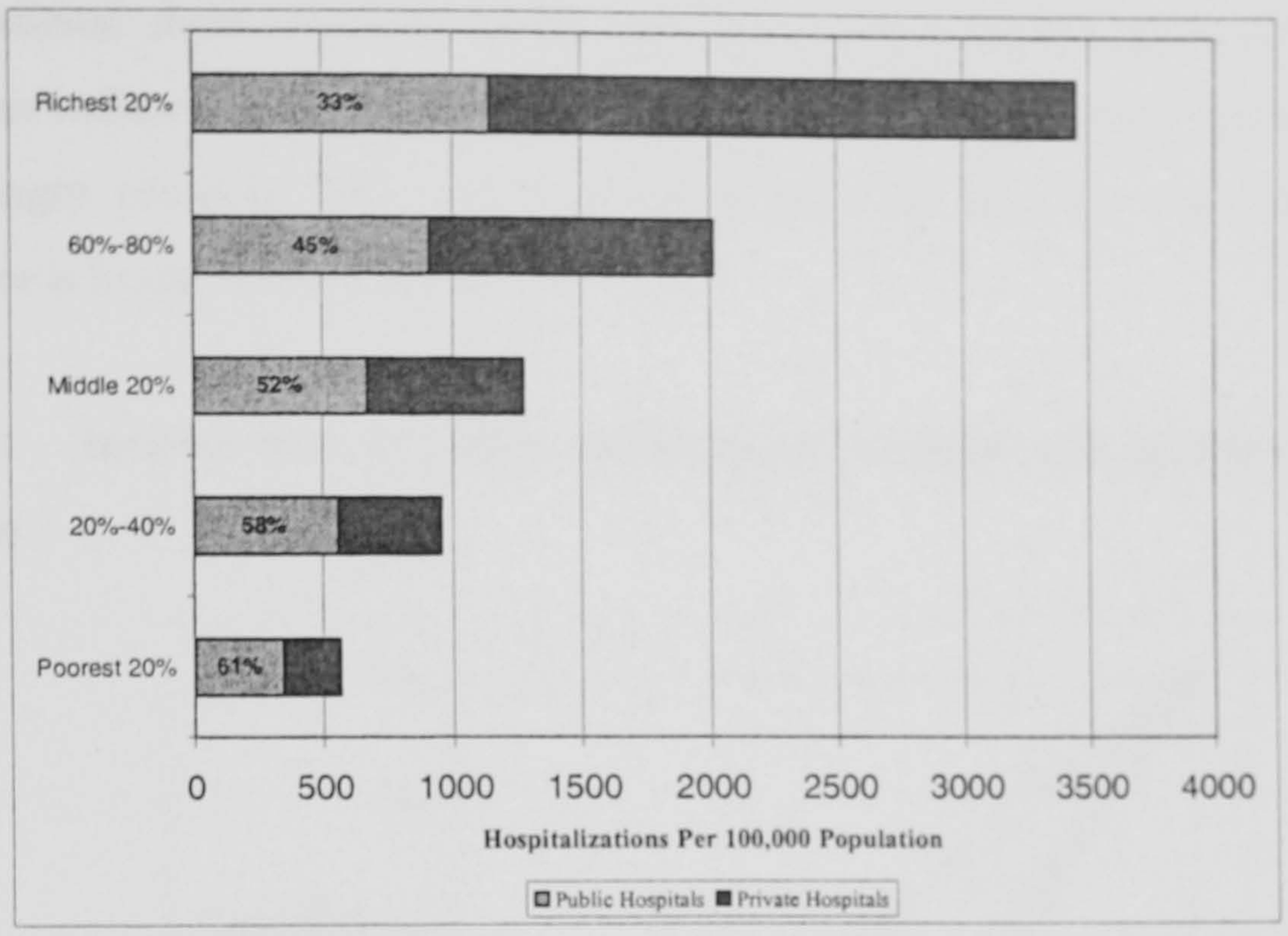
Despite lower rates of utilisation among the poor (discussed below), total health care expenditures account for a greater percentage of total household spending among the poor. A study from Kerala (1996 data, reported by Muraleedharan 2000, p. 16) found annual per capita medical expenditure to be 39.63% of income among the poorest "segment" and 2.44% among the richest. A national sample survey by Sundar (1995, data from 1993) found that poor households (annual income of 1993 Rs. 18,000 or less) spent 7.66% of income on curative health care, compared to 2.66% among the wealthiest group (income greater than 1993 Rs. 54,000). This is doubtless a function of much lower incomes among the poor, but probably results also from inequitable costs outside of user-fees (for example, medicines, supplies, transportation, etc.). Results of the 42nd Round of the National Sample Survey suggest that the percentage of household consumption expenditure which goes to health in rural areas is more than twice than in urban areas (5% compared to 2.3%; Berman 1995, p. 16).

Access to health care – through both public and private systems – is highly inequitable. On average, the poorest quintile of Indians is 2.6 times more likely than the richest to forego medical treatment when ill (Peters, et al. 2001, p. 158). Aside from cases where people believed that their illness was not serious (which comprised more than half of all cases), the main reason for not seeking care was cost, particularly for the poor. The richest quintile of the population is six times more likely than the poorest quintile to have been hospitalised in either the public or private sector (see Figure 2.6).

Due to inequitable access to health care, the poorest 20% of the population captured only about 10% of the total net public expenditure from publicly provided clinical services (Figure 2.7). (In part, this bias also reflects longer hospital stays by the rich, and possibly higher quality of care, for example private rooms.) The richest

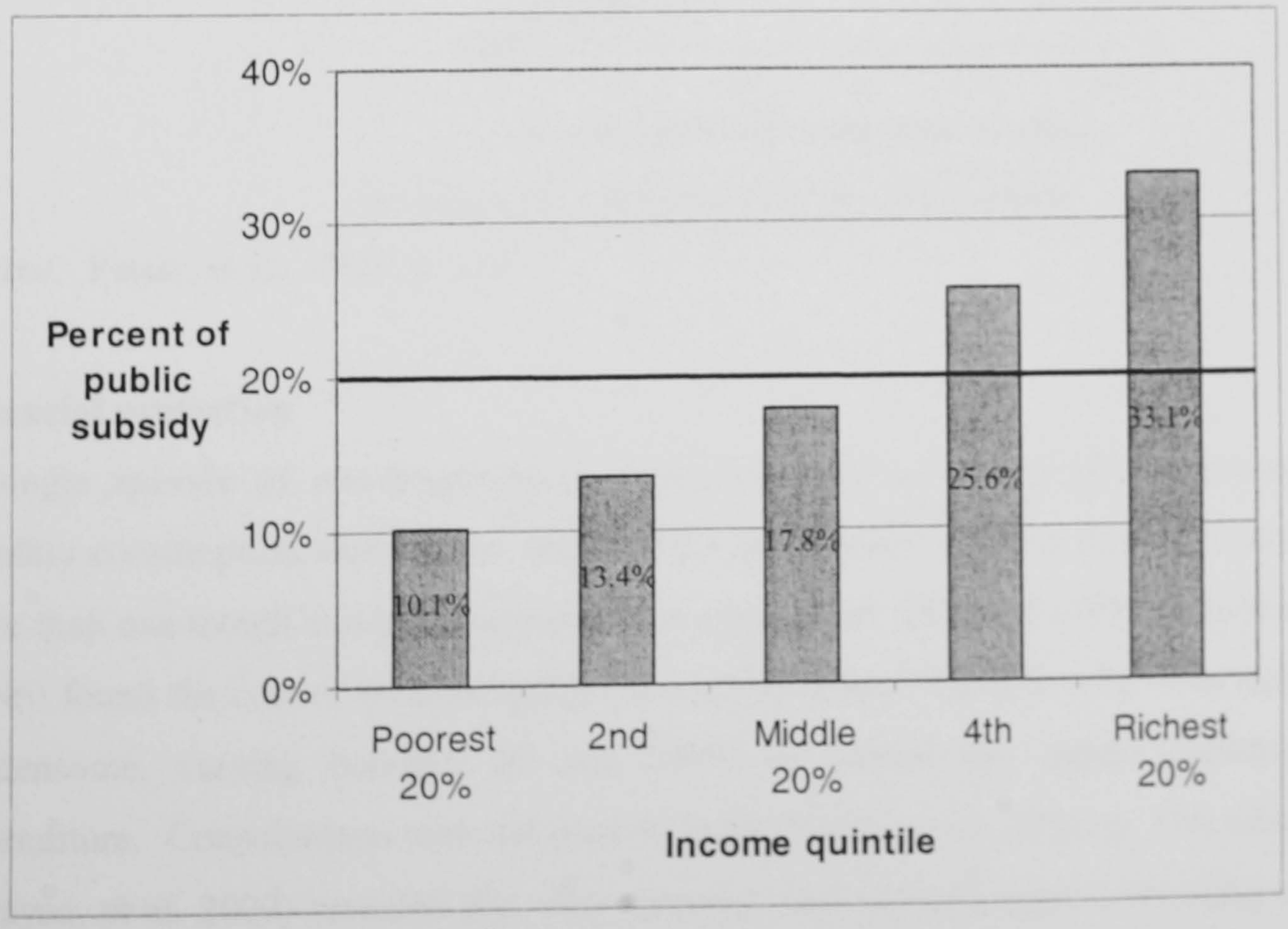
quintile received more than three times the subsidy received by the poorest quintile. indicating that publicly financed curative care services are unambiguously pro-rich.

Figure 2.6: Public and private sector shares of hospitalization, by income quintile



Source: Peters, et al. 2001, p. 114

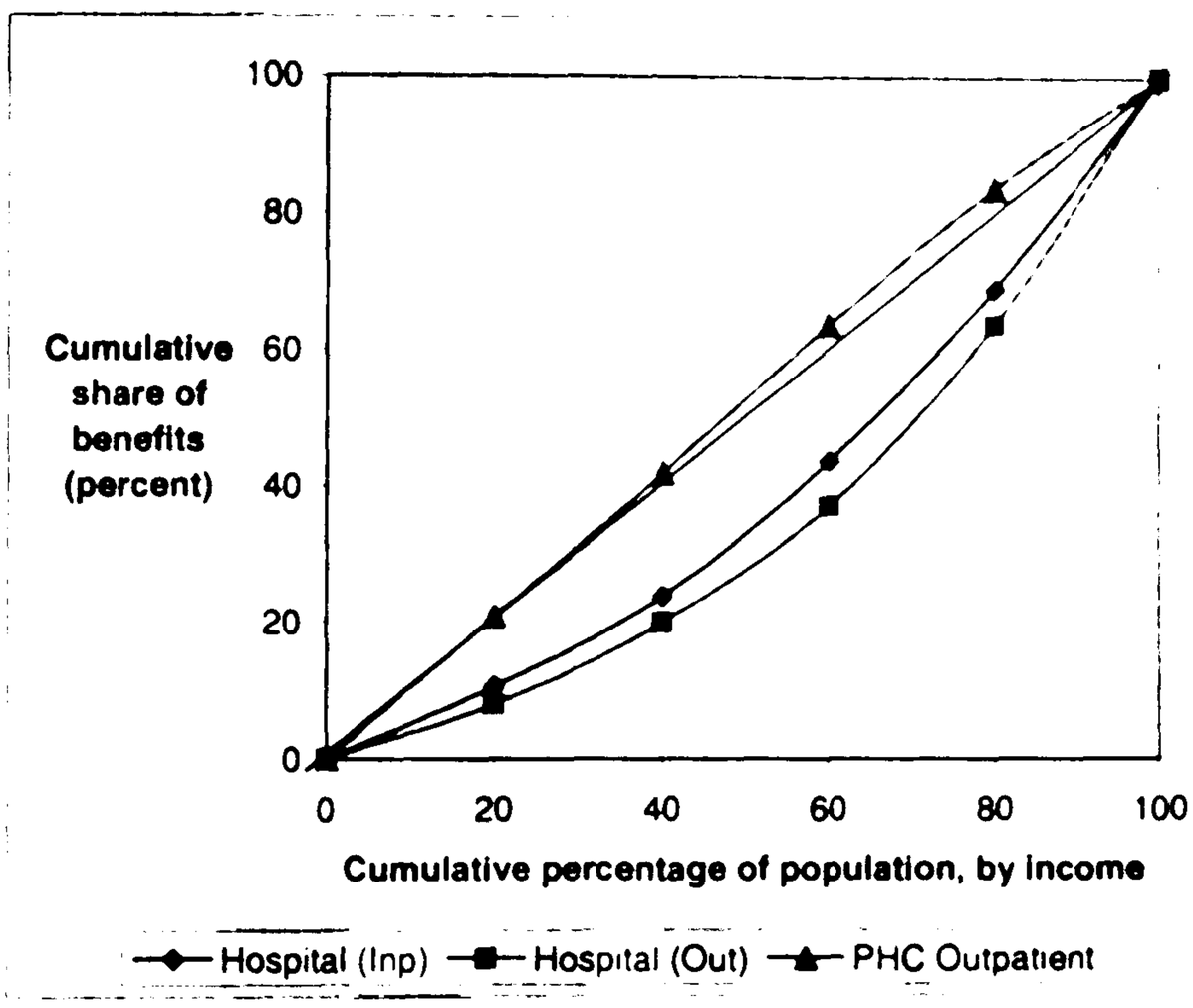
Figure 2.7: Public expenditures on curative care, by income quintile



Source: Peters, et al. 2001, p. 118

This pro-rich bias varies across types of health spending (Figure 2.8). A concentration curve below the diagonal line indicates that the rich receive a more than proportional share of public health spending; a concentration curve above the diagonal line indicates a pro-poor bias. Outpatient care in the primary care facilities shows a slight pro-poor bias, while spending on both inpatient and outpatient hospital care is biased toward the rich.

Figure 2.8: Income bias of public spending on hospital and primary health center care



Source: Peters, et al., 2001, p. 119

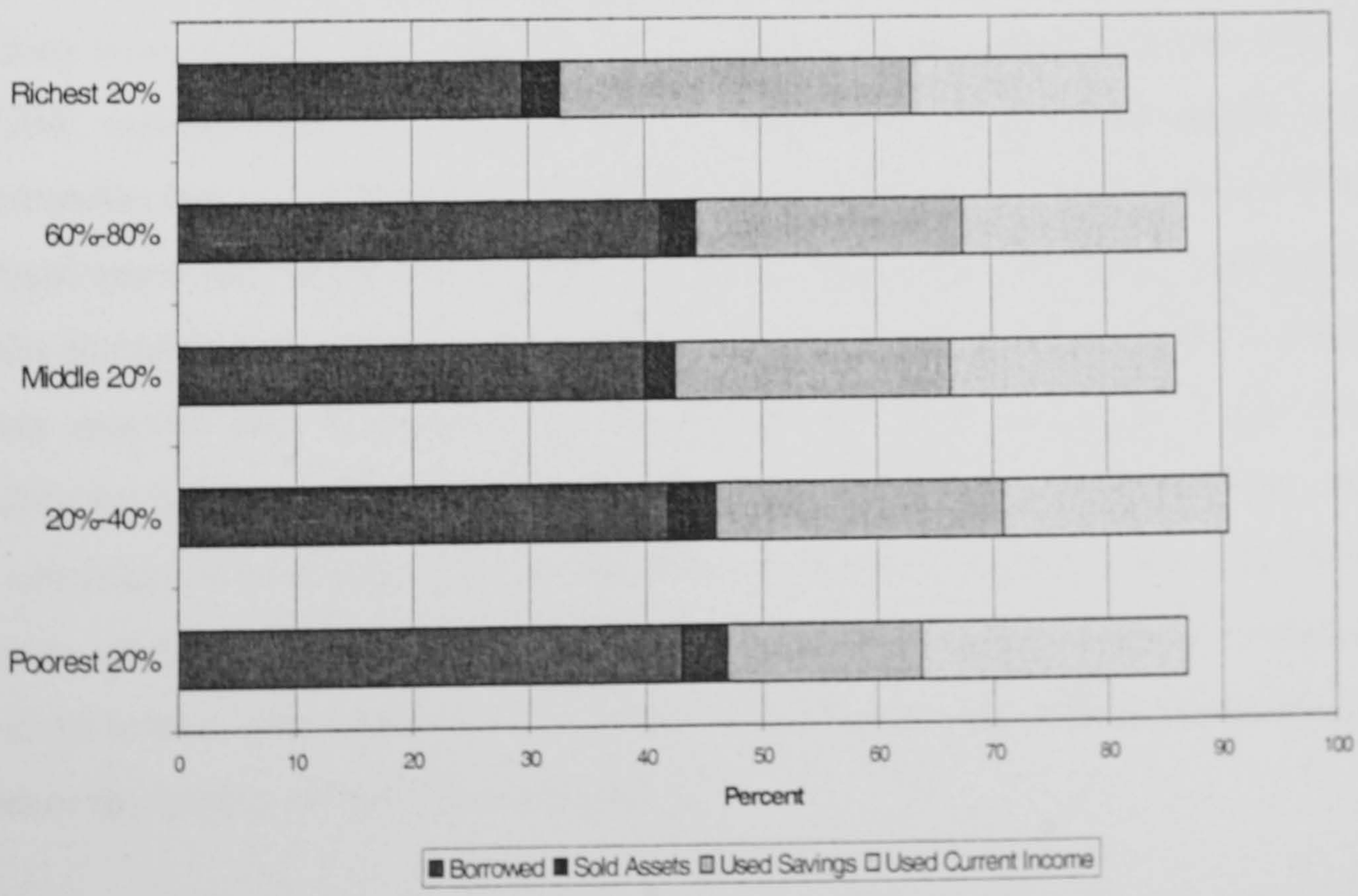
Financial protection

A single episode of non-hospitalised illness costs about 10 percent of average monthly consumption expenditure and a single hospitalised episode generally costs more than one month's average consumption expenditure (Berman 1995). Krishnan (1996) found the cost of hospitalisation (in a government hospital) to be even more burdensome, varying between 40 and 160% of annual per capita consumer expenditure. Consultations with the poor in India (Peters, et al. 2001, p. 154, citing Narayan, et al. 2000) revealed that after illiteracy and unemployment, spending on health care was the greatest precursor to poverty among poor households and the

greatest impediment to continued household security. Analysis of the NSSO data shows that the cost of a hospitalisation for nearly all people is extremely high compared to their total annual expenditures, averaging 58% (Peters, et al. 2001, p. 155).

An analysis of sources of financing for hospitalisations shows that large proportions of all people borrow money or sell assets to pay for hospitalisation (40%), but that doing so is more common among the bottom four income quintiles than among the richest (Figure 2.9). According to an analysis by Peters, et al. (2001, p. 157), at least 24% of all people hospitalised in India in a single year fell below the poverty line because they were hospitalised (not clear whether this takes into consideration the fact that other household members would serve as a buffer against poverty).

Figure 2.9: Sources of financing for private expenditures on hospitalization in India by income quintile, 1995–96



Source: Peters, et al. 2001, p. 156

How might CBHI address problems of financing and resource allocation?

CBHI, theoretically, has the potential to improve health care financing and resource allocation in India. Aspects of (large-scale, well-functioning) CBHI that may allow it to improve health care financing and resource allocation in India include: prepayment for health care, pooling of resources that is equitable (thus allowing for cross-subsidisation from low-risk to high-risk, and from wealthy to poor), and strategic purchasing (WHO 2000).

Resources spent on health care in India (expressed as a percentage of GDP) are high relative to other low-income countries. CBHI is likely to have little impact on the total resources available for health care. This is both because these schemes in India tend to be rare and to cover only small populations (see Chapter 3) and because CBHI, while bringing money into the health care system in the form or premiums, is likely to reduce out-of-pocket expenditures on health care.

Public and private health care resources are spent inefficiently in India, as most spending is on curative care, which fails to adequately address major disease threats. A CBHI scheme may be better able than individuals to purchase health care interventions that will achieve health system goals. Scheme managers may be better informed about the nature and burden of disease among the beneficiary population, and the providers and interventions available to address them. Furthermore, a CBHI scheme may be able to improve the technical efficiency of private health care spending by improving the quality of health care available. A CBHI scheme can take advantage of economies of scale and better bargaining capacity, thus optimising the price, quality and opportunity of services. The CBHI scheme can use external incentives to providers (through contracting, budgeting and payment mechanisms) to influence the quality of services provided.

India's health care system is currently inequitable, both in terms of financing and access to health care. When people contribute resources to a CBHI scheme, it

provides the opportunity for pooling of risks and resources. When the rich contribute a larger percentage of their income than do the poor, the contributions are considered to be progressive and (if benefits under the CBHI scheme are equitably distributed) the wealthy help to subsidise health care for the poor. CBHI may improve equity of access to health care by removing some component of the financial barrier (i.e. the user-fee) that prevents poorer households from seeking health care.

Health care expenditures in India, and those for inpatient care in particular, place a tremendous financial burden on households, and are a cause of indebtedness and impoverishment. Prepayment through a CBHI means that the expenditures on health care are spread out over time, and are less likely to push a household into poverty than if the same expenditures had to be made all at once, at the time of a medical emergency. Furthermore, the pooling function of CBHI allows for risk-sharing, such that those who are healthy (and do not require expensive health care services) share the costs of those who fall ill. Thus, households are provided some protection against the potentially catastrophic costs of health care.

As is discussed in the following chapter (Chapter 3) there is a real shortage of solid empirical evidence as to whether CBHI schemes are effective and sustainable. Those studies and reviews which have been undertaken suggest that many schemes are short-lived and fail even to meet the goals which they set for themselves.

CHAPTER 3: LITERATURE REVIEW

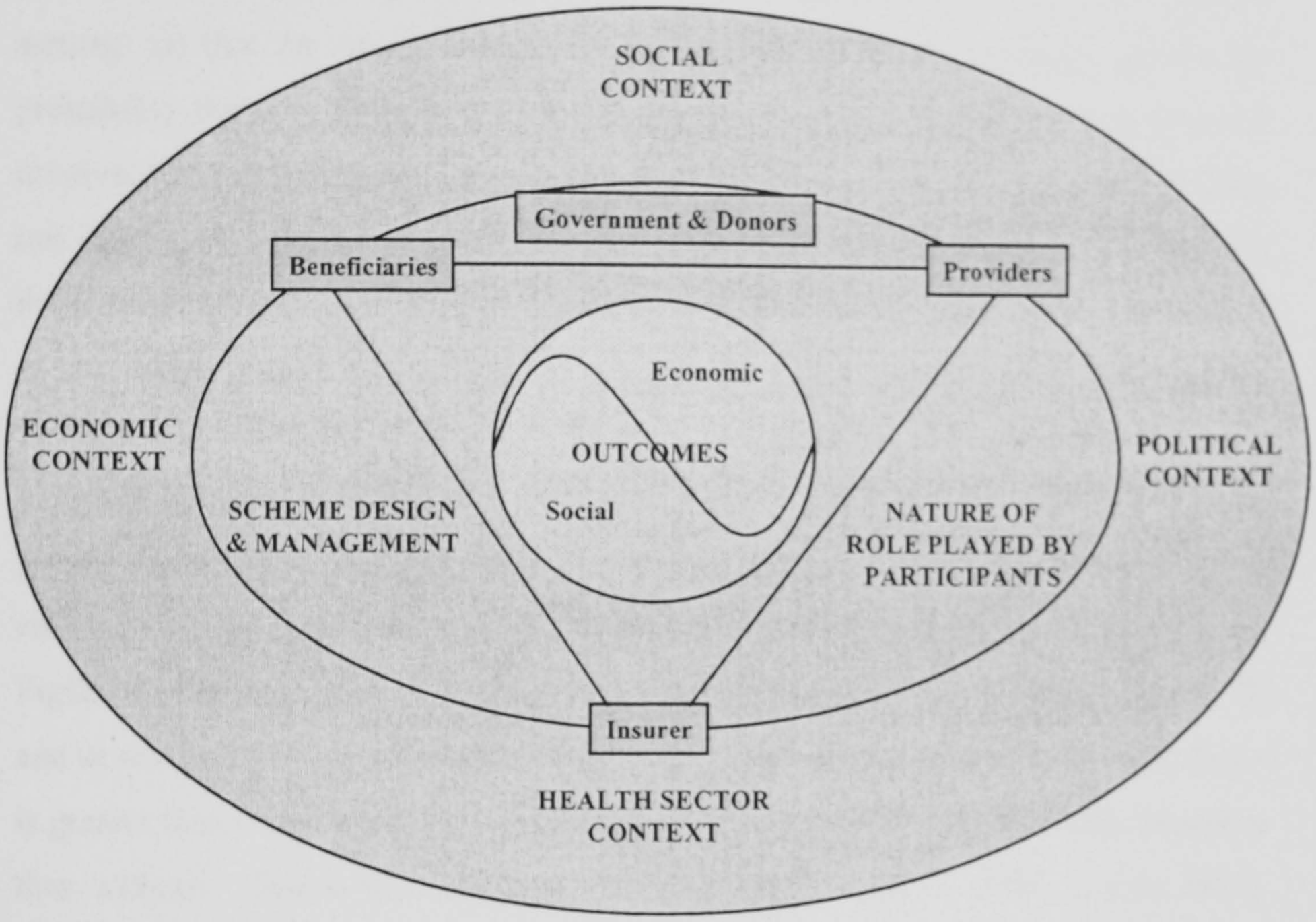
The aim of this literature review is to identify goals and objectives (or indicators of success) of community-based health insurance (CBHI) schemes, and the factors that underlie their success or failure, based on theoretical and empirical literature from India and elsewhere. Figure 3.1 (adapted from Bogg, et al. 1996) illustrates some of the elements of CBHI that will be covered in this chapter, including the objectives of CBHI (economic and social), the participants, the design and management of the scheme (including the roles played by different participants), and the context in which the scheme operates. The literature review is ordered as follows: (i) an introduction to the (traditional) economic perspectives on health insurance; (ii) a discussion of the social perspectives on health insurance, including social consequences of health insurance and social capital as a determinant of success; (iii) a discussion of international policy statements and reviews on CBHI; (iv) a review of existing CBHI schemes in India; and (v) a brief summary, including a theoretical framework for the research methodology, which evolves out of the literature review.[1,2]

---

[1] This chapter does not review the experience of non-Indian health insurance schemes for the informal sector. For a recent review of 82 schemes (including several of the Indian schemes) see Bennett, et al. (1998).

[2] Although it may seem counterintuitive to discuss consequences of health insurance prior to determinants, we have used this order consistently throughout the thesis. It is important to first get some feel for how success is being defined before discussing the factors that contribute to success

Figure 3.1: Objectives and contextual determinants of success for CBHI schemes



Source: Adapted from Bogg, et al. 1996

ECONOMIC PERSPECTIVES ON HEALTH INSURANCE

The purpose of this section is to review the economic theory behind health insurance, risks to the financial viability of an insurance scheme, and design mechanisms that can be put in place to ameliorate these risks.

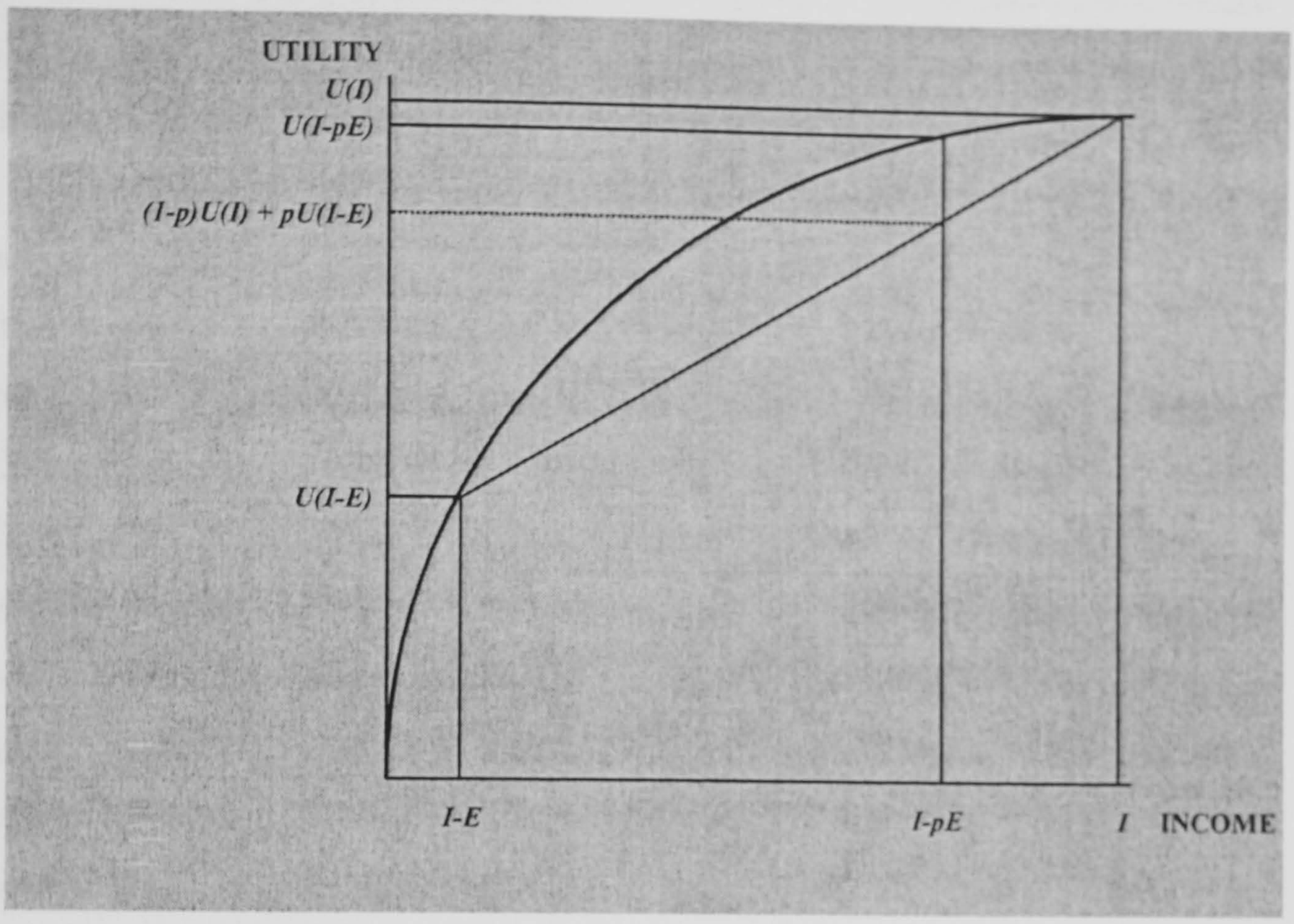
Why people buy health insurance

> *When I take out insurance, the commodity I am buying is certainty.*
> *Barr 1998, p. 127*

The ILO defines insurance as "the reduction or elimination of the uncertain risk of loss for the individual or household by combining a larger number of similarly

exposed individuals or households who are included in a common fund that makes good the loss caused to any one member" (Criel 1998a, p. 59). Why might someone buy insurance? Figure 3.2 shows the utility function of income for an individual who is risk averse (i.e. it assumes diminishing marginal utility for income). Let us assume: (i) that for any given period of time, the insurance company knows the probability that this individual will fall ill, and the average expense that this will involve; and (ii) that there is no loading cost to the insurance (i.e. the premium does not cover the costs of producing the insurance or normal profit). Let I be the disposable income of the individual in the absence of illness, let p be the probability of the illness occurring during a given period of time, and let E be the expected average expense incurred due to the illness. An individual with insurance will have a *certain* income of I-pE, and a corresponding utility of $U(I$-$pE)$. During any one period of time, an individual with no insurance will have an *uncertain* income of either I or I-E. Expected utility without insurance (shown by the dotted line in Figure 3.2) is the weighted average of the utilities of expected income in health (I) and in sickness (I-E), which *is* $(1\text{-}p)U(I) + pU(I\text{-}E)$. In this scenario, provided that p is greater than 0 and less than 1, the individual's utility will be higher with insurance than without. This is the 'utility maximising model' (Arrow 1963, Culyer 1993). Based on this model, it is easy to see why "an individual's demand for private health insurance will be determined by factors such as the price of insurance, that is the premiums to be paid; the individual's assessment of the probability of loss (especially financial) resulting from the illness; the likely magnitude of that loss; his income; and most especially, the degree to which he is risk adverse (Feldstein 1979 cited in Mills 1983, p. 67-8).

Figure 3.2: The demand for insurance by a rational, risk-averse individual



Source: Culyer 1993, p. 155.

Traditional Indicators of Success

According to the utility maximising model, the effect of health insurance on the demand and supply of health care is predictable. When an individual with health insurance falls ill, s/he is faced with a lower price per unit of health care (*P2* in Figure 3.3) than in the absence of health insurance (*P1*). This reduced price (*P2*) falls somewhere between *zero* and *P1* and depends on whether co-insurance or a deductible is charged (discussed below). The sick individual will increase consumption of health care from *Q1* to *Q2* (the point at which marginal private benefit is equal to marginal private costs). If the providers can fully recoup their expenses from the patient and the insurer, they have every reason to supply this care. Thus, health insurance is expected to result in increased utilisation of health care, and decreased price per unit of health care faced by the consumer. When assessing the impact of health insurance schemes, it is common to use the two-part model

developed as part of the Rand Health Insurance Experiment (Duan, et al. 1982; Manning, et al. 1987) that estimates (Part 1) probability of health care utilisation and (Part 2) incurred level of out-of-pocket expenditures, conditional on positive use of health care services (Jakab, et al. 2001; Yip and Berman 2001).

Numerous studies have found CBHI schemes to increase utilisation while (or as a result of) decreasing costs to the consumer (Table 3.1). Schemes that cover hospital inpatient care have resulted in increased rates of utilisation in such diverse settings as: China (Bogg, et al. 1996), Democratic Republic of Congo (Criel and Kegels 1997), Ghana (Atim 1999), and Kenya (Musau 1999). In Bwamanda district, Democratic Republic of Congo, Criel and Kegels (1997) found that rates of hospital utilisation by members of a voluntary insurance scheme for hospital care were twice as high as for the non-insured (49 versus 24.9 per thousand per year). The Nkoranza Community Financing Scheme in Ghana (Atim 1999) covers 100% of the costs of hospitalisation. Members of the scheme were consistently more likely to be admitted to hospital (4.6 to 6.3% admitted per year) than non-members (1.5 to 2.6% per year).

There are many econometric studies from developing countries that have looked at health insurance (may be private, social, CBHI, but rarely specified) as one of the many determinants of health care utilisation. Almost all studies that did include an indicator of insurance status found that insurance affected whether an individual sought care, and the type of care accessed. Ellis, et al. (1994) found that the insured (most covered by the government's mandatory Health Insurance Organisation for government and large employers) were more likely to seek outpatient care from public facilities (versus private charitable) and were more likely to have reported hospitalisation. Insured women in the Philippines were more likely to choose private practitioner deliveries, as opposed to deliveries assisted by public, traditional or no practitioner (Schwartz, et al. 1993). Both adults and children covered by the social security scheme in Bolivia (for formal sector workers and their dependants) were more likely to access the social security facilities (Ii 1996). Even "potential

assistance from relatives", an informal insurance mechanism, was found to be associated with increased probability of seeking care and increased probability of seeking care from an allopathic practitioner as opposed to a traditional doctor or drug vendor (Mariam 2000).

Figure 3.3: The personal demand for health care

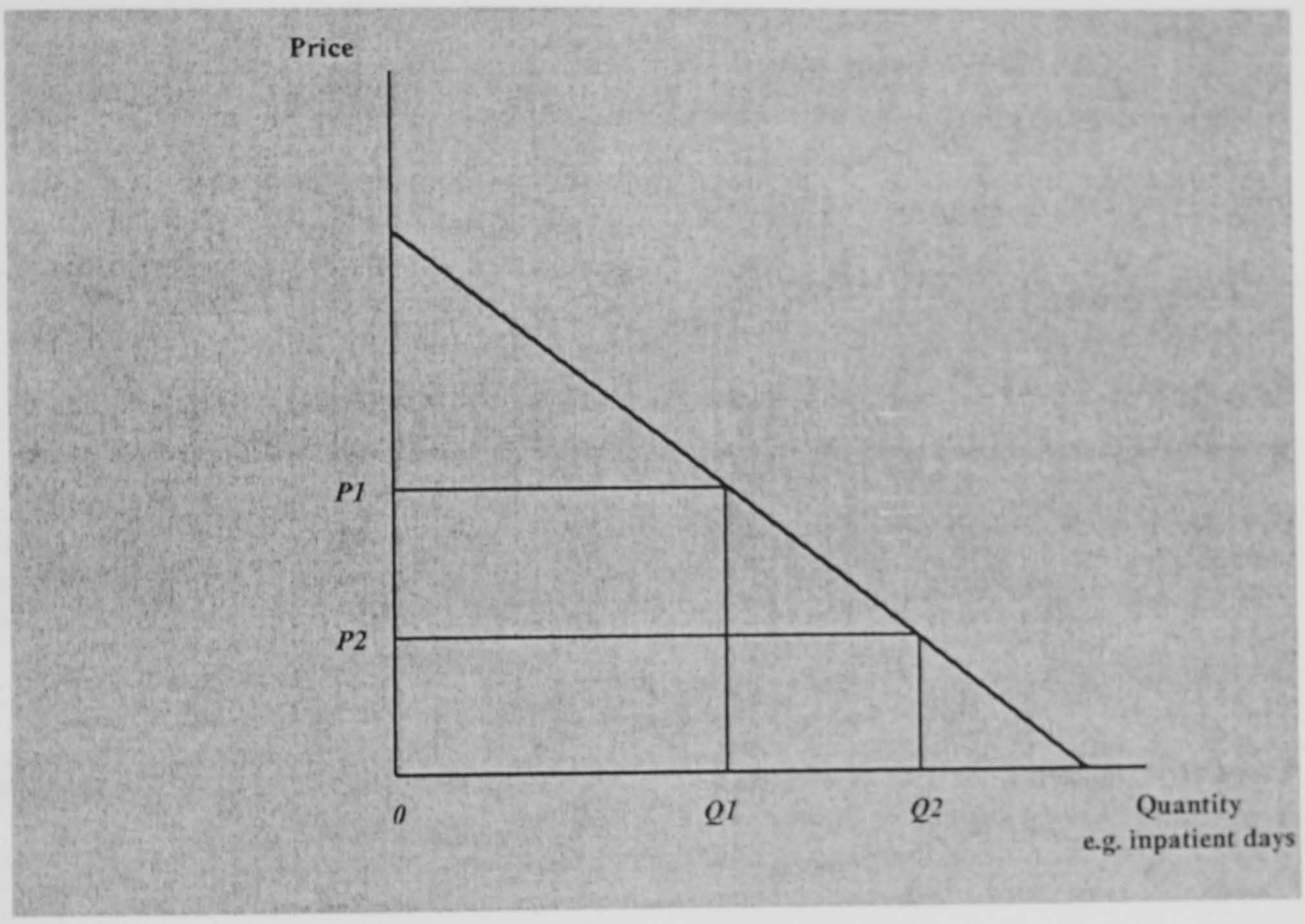


Table 3.1: Summary of studies looking at the impact of CBHI schemes on utilisation and out-of-pocket expenditures

Study	Description of study	Utilisation	Expenditure
Rwanda (Schneider & Diop 2001)	Fifty-four pre-payment schemes in 3 districts covered some outpatient and inpatient costs. Largely restricted to outpatient care. Sample size of 11,583 (2,518 HH). Data from 2000.	Increased probability (6.6 times) of "at least one visit to professional health care provider".	Decreased (by approx. 60%) "total out-of-pocket payment per illness episode".
Senegal (Jütting 2001)	Three Mutual Health Insurance Schemes that covered part of the costs of hospitalisation. Sample size of 2,987 (346 HH). Data from 2000.	Increased "proportion of sample with at least one hospitalisation".	Decreased "out-of-pocket spending on hospitalisation" (48%).
India (Gumber 2001)[3]	SEWA; covered hospital costs only, to Rs. 1,200. Sample size 1,200 HH in non-randomly selected clusters. Data from 1998-99.	Decreased likelihood (down by 63%) of seeking ambulatory care in case of illness. (Perhaps women were "jumping the queue"?)	No change in "total annual cost (direct and indirect) of health care use". Neither ambulatory nor inpatient.
Democratic Republic of Congo (Criel & Kegels 1997)	District-level scheme that covered 80% of hospitalisation costs at referral hospital. Routinely collected hospitalisation data.	Rates of hospitalisation were consistently higher (1.5 to 2 times) among the insured.	-
Ghana (Atim 1999)	Nkoranza community financing scheme. Covered 100% of hospital costs for referred patients. Hospital data from 1992 to 1994.	Members were consistently more likely (2.3 to 4 times) to be admitted to hospital than non-members.	-
China (Bogg, et al. 1996)	Comprehensive health insurance system in Jintan county. Partial reimbursement for drugs, outpatient and inpatient visits. Data from 1986 to 1994.	Evidence for increased utilisation of inpatient care.	-
Niger (Diop, et al. 1995)	Boboye district. Mandatory taxation. Coverage of drugs. Longitudinal data.	The number of initial visits (outpatient) increased by 40% during the year following implementation.	Total illness related expenditure dropped by 48%.

Source: Format adapted from Jakab, et al. 2001
HH = household

[3] Note that this earlier study of the SEWA scheme did not examined the impact of the scheme on

These analyses shed no light on how health insurance might impact on the complex processes of intra-household resource allocation – the processes by which time money, and other resources are allocated among individuals. In fact, most economists (and most econometric analyses) view the household as a "collective of individuals who behave as if they are in agreement on how best to combine time, goods purchased in the market, and goods produced at home to produce commodities that maximise some common welfare index" (Quisumbing and Maluccio 1999, p. 10). This unitary approach is based on the assumption that all household members share the same preference function. The unitary model does allow for differences in well-being and consumption patterns within households, but assumes that resources are differentially allocated so as to maximise household utility. While the unitary model does allow person-specific prices (for goods and leisure, for example) it assumes that all household resources are pooled.

Using the unitary model as the basis for health policy prescriptions can lead to policy failures. For example, policy makers assume that by reducing poverty for an individual, they can alleviate poverty for the household, or that individual poverty can by reduced without taking the actions of other household members into account (Haddad et el. 1997). But the assumptions that underlie the unitary model are erroneous in a number of ways (Quisumbing and Maluccio 1999):

- First, resources are unlikely to be "perfectly" pooled. For example, after a severe drought in the Sudan and the Sahel in 1975, herds were restored by granting cattle to male household heads. This programme failed to acknowledge that within the household, some cattle are owned by women who separately control their products, and that the women's loss was as serious and important to rectify as the men's (Cloud 1978 as cited in Lorge Rogers 1990).
- Second, the unitary model predicts that information – like other resources within the household – will be shared or pooled. However, numerous real-world examples have shown that targeting information and education to one individual

---

hospital utilisation.

versus another (for example, husband vs. wife) has consequences for the extent to which a policy will be adopted.

- Third, the unitary model fails to take into consideration the consequences to, and response of, non-recipients of a resource transfer. Under the Mwea-Tebere irrigated rice resettlement scheme in Kenya, children were sent away to school as a project benefit. The loss of children's labour time resulted in a greater burden on their mothers (Hanger and Moris 1973 cited in Lorge Rogers 1990).

Different models have been proposed to address the weaknesses in the unitary model. Quisumbing and Mulaccio (1999), for example, propose a "collective model" that posits that individuals within households have different preferences (i.e. different preference functions) and do not pool their incomes. According to this theory, conflicting preferences of individuals within the household are combined in various ways to reach a collective choice. Their empirical tests, using data from four different countries, consistently resulted in rejection of the unitary model in favour of this collective model. They found, for example, that assets controlled by women (relative to men) have a positive and significant effect on expenditure allocations towards the next generation. Similarly, empirical work presented in Haddad et al. (1997) supports the finding that household allocation decisions depend greatly on the person being targeted. The implication is that when policies to reduce household poverty – including insurance schemes – are designed and implemented, careful attention must be paid to the impact on intra-household resource allocation.

According to Rosenzweig (1990, p. 41-2), the current binding constraint to the further development of economic models of household behaviour is the state of existing data:

> *The theoretical framework provides a clear indication of the kinds of data needed for improving our knowledge in order to anticipate the consequences of interventions, given intra-household behaviour; few data sets meet these requirements... Poor integration of survey design and modelling so far have been critical impediments to knowledge.*

Rosenzweig (1990) states that increased data should be collected on: sources of

income, by individual; price variability when there are alterations in the environment in which households exist; and increased information on the effects of interventions on the outcomes of interest (e.g. health, morbidity, schooling).

Risks to the financial viability of health insurance schemes and tools of risk management

Traditional economic theory is based on the assumptions that: people are informed and rational, tastes are exogenous to the economic system, and that the purpose of all economic activity should be to satisfy the wants of consumers. In reality, there arise many situations in which these and other assumptions of the utility maximising model are not met. Failure to meet these assumptions may threaten the financial viability of the health insurer.[4]

Adverse selection arises when the people who might take out insurance are better able to assess their 'riskiness' than are insurers (Barr 1998). The individual might have 'hidden knowledge' about the probability that he will fall ill. Those who are at greater risk, or who are already ill, will be more likely to subscribe to a health insurance scheme than those who are at less risk. Thus, the population that purchases insurance will be skewed towards the high risks and the insurer will face a net financial loss. Insurers can counter adverse selection either by making membership compulsory, imposing a waiting period between enrolment and eligibility for benefits, or rating individuals according to their level of risk, and charging them accordingly for insurance. The latter strategy may not be particularly successful as there are inevitably pieces of information that cannot be accessed by the insurer.

Moral hazard occurs when people change their behaviour, as a result of having insurance, in such a way that makes the event covered more likely or more

---

[4] In certain circumstances, failure to meet these assumptions may improve the financial viability of an insurance scheme. For instance, individuals who are poorly informed about their risk of illness may purchase more insurance than they would if they were perfectly informed of their risk.

expensive. Moral hazard is a phenomenon that can be initiated by the patient himself or by the health care provider (provider-induced demand). There are methods used by the insurance industry to combat moral hazard (Mills 1983). Co-insurance requires that the insurance beneficiary pay a percentage of health care costs. Deductibles make the insured pay for the initial expenses up to a predetermined sum, and fixed indemnity means that the insured is only covered up to a predefined amount, or number of illnesses. Moral hazard can also be dealt with by affecting the behaviour of providers. For example, insurers can pay providers by capitation, whereby the provider receives a fixed amount to provide all health care to a patient over a specific period of time. In many developing countries there are barriers that limit health care utilisation, so moral hazard may not be as important an issue:

> *Given that the process of obtaining health care in most low-income settings is... associated with long journeys on foot and or relatively expensive but uncomfortable travel by road, long hours of queuing, and loss of production for almost a day, there is little justification to include measures such as co-payments to reduce possible moral hazard (Arhin-Tenkorang 2001).*

Inadequate risk pooling (under-enrolment) increases the chance that an insurer will face large losses. As more people enrol in a health insurance scheme the actual probability of illness in the enrolled population approaches the probability of illness in society at large. The smaller the number of people enrolled, the greater the risk that the frequency of illness will be different than was expected by the insurer. This may result in unexpected profits (if the frequency of illness is low) or debt and bankruptcy (if the frequency of illness is high). Under-enrolment can be combated either by increasing demand for insurance or by making enrolment in a scheme mandatory. Demand for insurance can be increased either by increasing willingness to pay (say through advertising) or ability to pay (by lowering the price of insurance, or providing subsidies).

High costs of production (and administration) will limit the ability of an insurer to make a profit. The cost of producing insurance is a function of: (1) marketing costs;

(2) processing costs (include the costs of actuarially determining premiums); (3) reimbursement costs (not the costs of care, but the costs of checking claims, pursuing fraud, and reimbursing either providers or patients); (4) the degree to which premiums are set above the minimum cost (as would occur with monopoly premium setting); (5) and scale and scope of the insurance program (Culyer 1993). Sound financial management is required to ensure that 'loading' costs will cover the costs of producing the insurance and normal profit. Corruption (misuse of funds by a member of the staff of a health insurance scheme for personal gain) directly adds to costs of production. In the short term, corruption will have a direct, negative impact on profits. Over the longer term, corruption may result in an increase in the loading cost. Corruption might be prevented (or minimised) by making more than one person responsible for managing the insurance fund, establishing a supervisory committee, or allowing for regular external audits.

Free riding refers to people who take advantage of the benefits of insurance without paying the premiums. Closely related to free riding is fraud. The payment of health insurance is linked to the occurrence of illness. While it might be relatively straightforward to check whether an individual has broken a limb (with x-rays, for example), it might be difficult to check whether a person has actually suffered a seizure. Fraud refers to situations in which the insured claim benefits to which they are not actually entitled. Free riding and fraud can be deterred by carefully investigating claims made to the insurance scheme, and imposing penalties for those who are found to abuse the system.

Summary: the economic perspective

Economic theory explains individuals' demand for health insurance in terms of their desire to maximise "utility". Under this model, factors thought to determine individuals' demand for insurance include price of insurance, assessment of the probability and magnitude of financial loss resulting from illness, income, and the degree to which they are risk averse. Economic theory suggests that individuals with health insurance will face a lower price per unit of health care, and thus will

increase their utilisation of health care. Econometric studies of health insurance schemes have traditionally assessed impact in terms of probability of health care utilisation and level of out-of-pocket expenditures. There arise many situations in which the observed behaviour of individuals does not meet the assumptions of the utility maximising model required to avoid market failure. Failure to meet these assumptions (and inefficiencies of production) may threaten the financial viability of the health insurer. Various mechanisms can be employed to protect financial viability.

SOCIAL PERSPECTIVES ON HEALTH INSURANCE

Potential social consequences

Health insurance is likely to have social costs and benefits that are excluded from the traditional economic perspective. This section will review evidence for the impact of health insurance on: (i) the locus of medical decision-making; (ii) the status of the allopathic medical profession; (iii) access to medical care; (iv) mechanisms of gift-giving; (v) and the nature and prevalence of risky behaviour. Almost all of the literature in this section is from developed countries, and most of it from Western Europe.

Health insurance may impact on the processes of medical decision-making, and the relative power of individuals or groups to make such decisions. Health insurance can reduce conflict amongst friends and family of the sick by transferring the responsibility for decision-making to physicians and insurance companies. "The dynamic of an insurance-oriented society (is) toward a greater social direction and administration" (Rushing 1986, p. 6). As well, health insurance can change the relationship between patient and provider; a provider who is paid by an insurer may have an incentive to please the insurer rather than the patient. There is disagreement as to whether conflict between patient and provider increases or decreases with health insurance, and this seems to depend in part on the nature of the contract between insurer and provider (Heimer 1985, Rushing 1988). Health insurance

schemes vary tremendously in terms of the involvement of the community in making major decisions (Atim 1998, Dave Sen 1997). According to Atim, mutual health organisations, (MHOs) serve to empower community members (1998, p. 6) "as intermediate bodies between the state and the citizen (MHOs) help in the development of democracy".

Health insurance, by bestowing physicians with increased income and decision-making capacity, may improve the status of the allopathic medical profession. According to de Swaan (1988, p. 238), "the medical profession owes its position in contemporary society to its struggle for establishment and (in part to)... the emergence of a mass market for medical services financed by transfer capital in the form of social security, social assistance and health insurance." Health insurance may also be associated with a decline in status of 'traditional' systems of medicine.

Health insurance has social consequences by changing the access that various individuals and groups have to medical care. Health insurance enhances social integration by providing access to medical care to those who would otherwise be disabled by illness.[5] For example, health insurance permits the elderly to function at higher levels than would otherwise be possible, and to participate in the normal activities of society (Rushing 1986). Health insurance enhances cohesion by equalising access to health care among different socio-economic and demographic groups. For example, health insurance has helped to ease conflict between the 'proletariat' and their employers (Rushing 1988, de Swaan 1988). Availability of health insurance may impact on decisions around retiring or changing one's employment. 'Job lock' refers to a decrease in voluntary movement from one job to another, and it has been shown to result from the risk of losing employer-provided insurance (Monthly Labor Review 1998).

---

[5] Social integration refers to "participation in activities with others" and social cohesion refers to "a minimum of individual discontent, individual isolation, and alienation, and in consequence, a low level of conflict in social relations" (Rushing 1986, p. 148).

Health insurance changes society by establishing norms for the altruistic transfer of resources within society. Titmuss (1997, p. 292), drawing on his study of blood donation, supports the idea that social security, like other social institutions "can encourage or discourage the altruistic in man; such systems can foster integration or alienation". There is disagreement as to whether the 'institutionalisation' of giving through health insurance has a net positive or negative impact on society. On the one hand, health insurance may provide a sense of well-being and enhance social cohesion by allowing the insured to make a unilateral transfer of resources. On the other hand, health insurance may be detrimental by undermining traditional systems of reciprocal giving (Rushing 1986). This is reflected in concerns voiced in the WDR 2000/2001 that government-provided insurance may "displace self-insurance or group-based mechanisms" (World Bank 2001c, p. 148).

Health insurance may result in a change in the nature or prevalence of risky behaviour. It does so by changing societal values regarding life and health. On the one hand, preventive activities endorsed by the health insurance scheme will discourage behaviour that is risky to one's own health, or to the health of others (Kimball 1960). Similarly, there may be some degree of 'social control' whereby enrolees discourage fellow enrolees from engaging in activities that will result in over-utilisation of the scheme's benefits. On the other hand, economic theory suggests that individuals with insurance are less likely to take precautions so as to avoid the insured event (ex-ante moral hazard).

Social capital as a determinant of the success of health insurance

This section will examine the potential association between social capital and the financial viability of private health insurance. Social capital was chosen as the focus because it has recently leapt to prominence as a potential determinant of various institutional arrangements, including micro-credit schemes in developing countries (van Bastelaer 1999; Woolcock 1998). The purpose of this section is to describe the origins of the term, social capital; how social capital constitutes a resource; the extent to which social capital can be intentionally generated; attempts to quantify

social capital; and how social capital may underlie the success of non-governmental, non-profit insurance schemes.

Social capital can be defined as "features of social organisation such as networks, norms, and social trust that facilitate co-ordination and co-operation for mutual benefit" (Putnam 1993b, p. 35-6).[6] Used in its this sense, the term "social capital" first appeared in the published literature in 1916. Lyda J. Hanifan, a superintendent of schools in West Virginia, used the term in describing the importance of community involvement to successful schools:

> *...those tangible substances [that] count for most in the daily lives of people: namely good will, fellowship, sympathy, and social intercourse among the individuals and families who make up a social unit... If [an individual comes] into contact with his neighbor, and they with other neighbors, there will be an accumulation of social capital, which may immediately satisfy his social needs and which may bear a social potentiality sufficient to the substantial improvement of living conditions in the whole community (Hanifan 1916, p. 130).*

James S. Coleman was the first to develop the theoretical framework around social capital (Coleman 1988). Coleman acknowledged that economists and sociologists had previously attempted to characterize the interactions between individuals' economic behaviour and the corresponding social context. He was critical of these attempts, suggesting that they were too simplistic in that they "maintain the conception of rational action but ... superimpose on it social and institutional organization" (p. S97). Social capital was introduced as a conceptual tool to show how, "...purposive action... in conjunction with particular social contexts, can account not only for the actions of individuals in particular contexts but also for the development of social organization" (p. S97). According to Coleman, social capital is a "variety of different entities, with two elements in common: they all consist of some aspect of social structures (they exist within social structures), and they

---

[6] One interpretation of this (and most other) definition(s) of social capital is that social capital is everything *social* that is also *functional* or capable of being used towards some desirable outcome. Indeed, we have found no instance in the literature where social capital *was not* of benefit to those

facilitate certain actions of actors—whether persons or corporate actors—within the structure." Robert Putnam has enhanced the theoretical framework, and illustrated the practical applications of social capital in his analysis of the differential success of regional governments in Italy. Putnam has redefined social capital in a more concrete manner, suggesting that the 'different entities' elusively referred to by Coleman can include "networks, norms and social trust" (Putnam 1993).

Hanifan, Coleman and Putnam have given a new name, and expanded upon, a concept that has been discussed in many different disciplines under many different names. For example, in 1967, the French sociologist Emile Durkheim, wrote of a distinct form of 'psychical entity' which arises from associated individuals and is inversely related to the incidence of suicide:

> *"It is true indeed that society has no other acting forces than those of individuals....(But individuals) in coming together form a psychical entity of a new kind, which... possesses ways of thinking and feeling of its own.... The group formed by the associated individuals is a reality of a different order from each individual taken singly.... The collective states are grounded in the nature of the group and are in existence before they can affect the individual as such and bring about in him, by achieving a new form of organization, a purely self-contained existence." (Translation of Durkheim 1967, found in Poggi 1972)*

Putnam remarks, "the parallels (i.e. the association between the concept of social capital and better society) across hundreds of empirical studies in a dozen disparate disciplines and sub-fields are striking" (Putnam 1995) p. 67. Other terms used to describe this (or similar concepts) have included: 'embededness', 'sense of community', 'sense of worth at the level of the community', 'social cohesion' and 'community competence'.

A community which has civic networks, norms and social trust can make achievements which would not have been possible in their absence, or perhaps only at a higher cost. Social capital is a resource insofar as it involves (Coleman 1988, Putnam 1993a, Putnam 1993b, Putnam 1995): norms of generalised reciprocity,

---

who have it.

exchange of information, behaviours compliant with norms, and grounds for collaboration and co-operation. Norms of reciprocity are advantageous in that the value of a favour is amplified as it is usually done when the recipient is most in need. Exchange of information is important in providing a basis for rational action. For example, the sharing of gossip allows individuals to avoid opportunism and malfeasance (Putnam 1993b). Behaviours compliant with norms will benefit a community as such behaviours typically have beneficial effects on others. Finally, collaboration and co-operation facilitate the resolution of future dilemmas of collective action.

According to Putnam, levels of social capital are deeply rooted in history:

> Stocks of social capital, such as trust, norms, and networks, tend to be self-reinforcing and cumulative.... As with conventional capital, those who have social capital tend to accumulate more—them as has, gets (Putnam 1995, p. 37).

Change in social capital needs to be measured over decades, and once on a particular path – either the downward-spiraling 'vicious circle' or the self-reinforcing 'virtuous circle' – change may be difficult to impossible. Robinson and White (1997) use the term 'Putnam paradox' to refer to the fact that those communities that are in greatest need of social capital are least likely to be able to generate it. Putnam acknowledges that building a more civic society is neither easy not is it something that can be done overnight.

Nonetheless, authors certainly have tried to devise concrete suggestions as to how social capital can be generated. Lomas, for example, suggests interventions that can add to 'social cohesion' or social capital (Lomas 1998). His suggestions include: improving income and power distributions, advocating for increased leisure time to facilitate social interaction, changing planning by-laws to create more public spaces or to encourage verandahs on the front of houses rather than patios on the back or increasing subsidies and support for locally-based clubs and associations. Based on their analysis of data from 29 countries, Knack and Keefer (1997) suggested that

social capital can be enhanced by: institutional reforms providing better formal mechanisms for the reliable enforcement of contracts and access to credit. Their results suggest that promoting horizontal associations through encouraging the formation and participation in groups may be counterproductive. Brown and Ashman (1996) found that cooperation across sectors (NGO, public and private-for-profit) in carrying out development-oriented projects produced social capital:

> *In the source of these programs, local organizations were strengthened or created; bridging NGOs expanded their activities and their credibility with other actors; norms of reciprocity, cooperation and trust were established among previously unrelated or antagonistic parties (p. 1477).*

The concept of social capital remains contested and cannot be unproblematically applied. Some argue that the term social capital is simply too vague to be analytically useful, and thus needs to be broken down into sub-cateogies. Harriss (1997), for example, suggested the following six categories as the first level of breakdown:

- Family and kinship connections;
- (Wider) social networks, or 'associational life', including participation in local groups and organisations;
- Cross-sectional linkages, or 'contacts spanning differences in sector and power (also referred to as 'networks of networks';
- Political capital, or the norms and networks that shape relations between civil society and the state;
- Institutional and political framework, or the set of formal rules and norms (constitutions, laws, regulations, policies) that regulate public life in a society;
- Social norms and values defined by widely shared cultural beliefs and the effects these have on a functioning of a society as a whole.

This list illustrates how varied a group of sub-concepts social capital is intended to include, as well as the potential for different authors to be describing entirely different things under the term social capital.

Others argue as to what should or shouldn't be included under the social capital

umbrella. Foley and Edwards (1999, p. 162), for example, argue that "generalised social trust" should not be considered a part of social capital, as "there is little evidence that greater or lesser proportions of a population expressing themselves trustful of people in general has any bearing on the health of democracy or the prospects for economic achievement in a given country". Instead, they argue for a focus on social structural interpretations of social capital, with a focus on social networks and resources within a specific context community.

Still others argue not so much with the definition, but its narrow interpretation. Putnam's arguments, for example, "have been attacked for neglecting the 'dark' side of social capital (such as rent seeking and suppression of innovativeness), avoiding politics and political structure, and under-estimating the role of large-scale economic changes in under-mining civic engagement in the United States and elsewhere" (Foley and Edwards 1999, p. 145). Beall (1997, p. 960), based on empirical work around solid waste management in India and Pakistan, warns that "the diffusion of the social capital concept to development needs to be treated with caution". Consistent with the findings of Brown and Ashman (1996), for example, she concludes that "causal linkages between prior endowments of social capital and positive developmental outcomes need to be looked at as a two-way street". She also finds that power relations influence whether intersectoral or interorganisational cooperation will result in benefit – and for whom.

There is no accepted 'tool' for measuring social capital, which some feel limits its usefulness:

> *Whether social capital will come to be as useful a quantitative concept in social science as are the concepts of financial capital, physical capital, and human capital remains to be seen; its current value lies primarily in its usefulness for qualitative analyses of social systems and for those quantitative analyses that employ qualitative indicators (Coleman 1990, p 305-6).*

In fact, some would argue that social capital should not be measured, as a 'true' or valid measure is probably not possible. Past attempts at measuring social capital have generally broken it down into component parts, and tried to measure such

things as 'trust', 'civic cooperation' and 'participation in civic organizations' (Knack and Keefer 1997). Difficulties arise because measuring these inherently ambiguous factors is problematic. Further, combining the measures from these various domains may not possible; it is held by some that social capital may be greater that the sum of its component parts.

Examples of tools used to quantify social capital include the following:

- Putnam (Putnam 1993a), in examining social capital in regions of Italy, used a composite index of newspaper readership, the density of sports and cultural associations, turnout in referenda, and the incidence of preference voting.

- Knack and Keefer used data collected by the World Values Survey to examine the association between countries' social capital (specifically, trust, civic norms, and memberships in formal groups) and economic growth (Knack and Keefer 1997). The question used to assess the level of trust in a society was: "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?" The strength of norms of civic cooperation is assessed based on whether people feel that each of the following behaviours "can always be justified, never be justified or something in between.":

(a) "claiming government benefits which you are not entitled to"

(b) "avoiding a fare on public transport"

(c) "cheating on taxes if you have the chance"

(d) "keeping money that you have found"

(e) "failing to report damage you've done accidentally to a parked vehicle."

Interestingly, these authors were able to validate part of this measure of civic cooperation. To do so, they compared results of question (d) above to results of a study conducted in 15 countries in which wallets containing money and the addresses of their owners were "accidentally" dropped. The number of wallets returned with their contents intact was recorded for each city. The behavioral evidence supported the survey measures. Finally, participation in civic

organizations was assessed by asking whether or not people participated in a variety of types of organizations (e.g. education, arts, music, or cultural activities; trade unions; etc). Again, they were able to validate the results by comparing them with data on union membership available from another source.

- A survey of women in Mali was conducted to assess their social supports, social networks and health seeking behaviors (Personal Communication with Sarah Castle). In order to explore social supports and networks, subjects were asked about practical support ("who pounds millet for you or fetches water when you are busy, sick or absent?"); economic support ("who can you ask for money or milk if you don't have any?"); emotional support ("who is dear to you, or 'heavy' to you?") – literally "who makes your heart cool?"); and advice networks ("if your heart is stirred up, who can you go to?").

- Coleman looked at the effect of the lack of social capital available to high school sophomores on dropping out of school before graduation is carried out (Coleman 1988). His measures of social capital (within families) included: number of siblings (a proxy for dilution of adult attention to the child), single versus two-parent family, ratio of adults to children, and number of moves since grade 5.

- Recent studies have looked at the association between social capital and mortality and firearm violent crime (Kawachi, Kennedy et al. 1997; Kennedy, Kawachi et al. 1998). Here the authors measured social capital based on the weighted responses to several items from the General Social Survey:
  - Per capita number of groups and associations (e.g. church groups, labor unions, sport groups, professional or academic societies, school groups, political groups, and fraternal organizations)
  - "Do you think most people would try to take advantage of you if they got a chance, or would they try to be fair?"
  - "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?"

- "Would you say that most of the time people try to be helpful, or are they mostly looking out for themselves?"

The majority of studies of social capital have looked at its association with specific outcomes (e.g. economic growth, illness, human capital). In the field of public health, the focus has been on associations between social capital (as a protective factor) and mortality or morbidity. For example, low social capital was found to be associated with higher rates of mortality, as well as rates of death from coronary heart disease, malignant neoplasms, and infant mortality (Kawachi, Kennedy et al. 1997). Similarly, low social solidarity was associated with a higher mortality rate from myocardial infarction (Egolf, Lasker et al. 1992). Violent crime, and resulting mortality, has been found to be inversely associated with levels of social capital (Kennedy, Kawachi et al. 1998). In empirical studies, social capital or its components have been found, rather consistently, to be associated with good outcomes.

Brown and Ashman (1996) conducted a study across thirteen different development-oriented projects (in Africa and Asia; two of the thirteen focused on health sector interventions) to assess the association between social capital and successful inter-sectoral collaboration. They assessed social capital in terms of: (i) the existence of local organisations and networks and; (ii) the existence of relationships or contacts among the parties that span differences in sector and power. They found that there is "some support for the idea that social capital is associated with program success... (However), There were cases of clear and mixed success characterized by medium or even low levels of social capital as indicated in dense networks of effective local organizations." "Intersectoral relationships (or "bridges") appear to be linked to success in cooperative intersectoral problem solving... (However, again) Some clear and mixed successes displayed medium or even low levels of intersectoral relationships." Authors suggest that these two forms of social capital, "bonding" and "bridging" may act as substitutes. "Strong grassroots voice may compensate for low levels of intersectoral contact and credibility, and effective bridging

organisations may compensate for low levels of grassroots organisation" (p. 1473).

Surprisingly little empirical work has looked into the determinants of social capital. Such research will be necessary to devise effective policies/interventions for enhancing social capital.

There are a number of ways in which social capital might enhance the success of health insurance schemes. Social capital facilitates enrolment in health insurance schemes, helping to avoid inadequate risk pooling. According to one perspective participation in health insurance schemes is "motivated by altruistic feelings between members of a neighbourhood or social class" (Besley 1995, p. 2165). High levels of social capital in a society might mean that people have greater trust in a CBHI type scheme, are less likely to think that their money may be misused, and because of this may be more inclined to join.[7] Further, traditions of collaboration and co-operation increase the likelihood of success in future collaborative efforts. Hence, people will be more willing to enrol in an insurance scheme with others in the community. Finally, due to the exchange of information that is associated with social capital, people will be more likely to understand the concept of insurance, and this knowledge may increase demand for insurance.

Social capital may be a more important determinant of demand for some kinds of CBHI than for others. Bennett, et al. (1998, p. 11) found that degree of "cohesiveness" was more important to membership in Type II schemes (covering low-cost, high-frequency events, typically outpatient services or medicines) than in Type I schemes (covering high-cost, low-frequency events, such as unexpected hospitalisations):

> *Personal risk aversion was more likely to form the basis of demand for membership of Type I schemes than for membership of Type II schemes. Membership of Type II schemes appeared instead to relate more to a*

---

[7] Trust in the insurer could be considered a form of vertical social capital if the insurer is in some way part of the community, perhaps an NGO or a local health care provider. If the insurer were a less familiar organisation, perhaps located some distance away, it might seem less appropriate to classify trust in the organisation as social capital.

> *commitment to secure joint benefits for the community. Lack of a cohesive community was thus much less of an issue for Type I schemes than for Type II schemes. Moreover, beneficiaries of Type I schemes tended to be distributed over a wide area, relatively heterogeneous and therefore less likely to experience strong feelings of solidarity.*

Social capital may decrease adverse selection. Higher levels of social consciousness or solidarity mean that low risk individuals will be willing to pay the same premiums as high risk individuals, despite being less likely to benefit directly from the insurance. Criel says that solidarity means that, "people accept that the size of the return may not match the resources they have put *ex ante* in the system" (Criel 1998a, p. 64). Hsiao (2001) also argues that social capital can counter adverse selection:

> *Prepayment implicitly involves risk pooling, cross subsidising between the healthy and less healthy, and between the rich and the poor. The young and healthy people by pure economic calculus would not enrol if they have to prepay similar amounts as the elderly and the less healthy people. But sociologists have long argued that social capital is an important determinant of people's willingness to cooperate with each other (Hsiao 2001, p. 6).*

There are two main mechanisms by which social capital can counteract moral hazard, free-riding and fraud. Firstly, in a society with high levels of social capital, there will be an 'extrinsic' restraint on cheating; the free exchange of information means that those who cheat (or unconsciously over-utilise) are more likely to be caught (Yarrow 1993). Secondly, there will be an 'intrinsic' restraint in the form of loyalty to society, and perhaps to the insurance scheme (Burchardt and Hills 1997).

Social capital can decrease the costs of producing insurance. Less fraud in a community means that the insurance scheme will spend less on avoiding fraudulent claims. Secondly, the risk of corruption will be lower in a community with high social capital, secondary to enhanced social proximity and trust, and strong norms and sanctions aimed at prohibiting nefarious behaviour (Burchardt and Hills 1997).

It has been suggested by some that social capital may actually be inversely

associated with the success of health insurance schemes. According to one hypothesis, social capital may actually be a substitute for voluntary health insurance, through facilitating access to informal credit and risk-sharing mechanisms (Jowett 2000). This is a point of view expressed on the World Bank's social capital website:

> *We know that the poor use social capital – networks of trust and reciprocity – as an insurance mechanism which enables them to survive day-do-day when individually they cannot (World Bank 2001b)*
>
> *When the state is weak or not interested, civil society and the social capital it engenders can be a crucial provider of informal social insurance and can facilitate economic development (World Bank 2001a)*

Social capital may also have a negative impact when "communities and networks become isolated or parochial or work at cross-purposes to societal collective interests (e.g., ghettos, gangs, cartels)" (Preker, et al. 2001, p. 11). For example, high levels of social capital among private health care providers might enable them to harm a CBHI scheme if they perceive such a scheme to threaten their livelihood.

To date, few studies have looked into the association between social capital and the demand for voluntary health insurance, and the results of existing studies are inconclusive. According to Hsiao (2001, p. 7), an unpublished study by Liu (2001) has "found statistically significant association between these social capital variables (such as degree of mutual assistance a household has given and participation in civic activities in the villages) and people's willingness to pay and their actual enrolment in community financing schemes." The results of a household survey in Vietnam (Jowett 2000) showed a significant positive association between an aggregate measure of associational behaviour, or membership in voluntary associations, and demand for (state-sponsored) voluntary health insurance. There was, however, no significant association between "perceptions of social cohesion" and demand for voluntary health insurance. The author of this study suggests that "the philosophy of Confucianism, which stresses hierarchy and duty towards the State" along with "political ambition" may provide a motivation for membership of a mass ("voluntary") organisation and possibly for the purchase of a voluntary health

insurance policy (i.e. the former indicator was actually measuring duty to state rather than social capital). A small household survey in Senegal (Jutting 2000) found that members and non-members of mutual health insurance schemes judge the degree of trust and solidarity in the villages on a similar level.

Table 3.2 summarises the ways in which social capital may ameliorate the risks to the financial viability of insurance schemes, according to the literature reviewed.

Table 3.2. How social capital can ameliorate risks to the financial viability of non-governmental, non-profit health insurance schemes

Risk to Financial Viability	How Social Capital May Ameliorate
Inadequate risk pooling/Under-enrollment	• Altruistic feelings between members of a neighborhood or social class • Tradition of collaboration and cooperation • Exchange of information – people are more likely to understand the concept of insurance
High costs of production	• Less money spent in avoiding fraudulent claims • Lower risk of corruption secondary to strong norms and sanctions
Adverse selection	• Solidarity/social consciousness – low-risk individuals are willing to subsidize costs of care to high risk individuals
Moral hazard, Free riding & Fraud	• Exchange of information, reputations • Norms and sanctions which prohibit such behavior

The idea that social capital can enhance the success of CBHI schemes can be linked to an area of economics known as the New Institutional Economics, or NIE (Leonard 2000). NIE examines how social structures (or institutions) can be used to overcome barriers to the high powered incentives assumed to operate in the neoclassical market. These barriers are termed transaction costs. "They are the costs in the exchange that do not benefit either of the parties to the transaction; they simply make it more difficult and less attractive" (Leonard 2000, p. 3). In the case of CBHI, the "community base" (or the social capital) may decrease transaction costs in exactly the ways described above, for example, by increasing the probability that people of all risk-levels will join, by minimising information asymmetries, reducing fraudulent behaviour, etc.

Summary: the social perspective

In summary, there is ample theoretical literature to suggest that health insurance might have far-reaching social consequences, and that social context may impact on the success of health insurance schemes. Failure to take social consequences into account, and instead focus narrowly on economic consequences, is likely to result in policy decisions that fail to maximise social welfare. The theoretical literature suggests that levels of social capital are likely to be positively associated with the success of health insurance, although there are arguments to the contrary. Very few empirical studies have investigated the social consequences or determinants of health insurance. As is discussed in the methodology chapter (Chapter 4) the paucity of empirical work may reflect difficulties encountered (including lack of accepted or standardised tools) in identifying and measuring social consequences and social capital.

INTERNATIONAL POLICY STATEMENTS AND REVIEWS ON CBHI

Over the last twenty years there has been growing interest in health insurance for the informal sector in developing countries. The purpose of this section is to review the international literature, focusing in particular on the reasons invoked for encouraging health insurance schemes and the factors cited as contributing to their success.

Policy statements

In 1986-87, the World Bank recommended increased cost-recovery for financing publicly provided health services in developing countries (Akin, et al. 1987). This strategy included the development of health insurance schemes. In a 1986 background paper, de Ferranti argued that risk-sharing concepts have high cost-recovery potential, and that they "could be made more equitable than some other types of policies" (p. 73). However, based on the available evidence (largely Stinson's work, described below), he concluded that "community financing will rarely be able to cover the full costs of local services" (p. 83). de Ferranti emphasised that outside financial and organisational support is vital to the success of such schemes. The policy report stated that "reforms in financing health care will

have little impact without a political commitment by the government to making the sector more effective" (Akin, et al. 1987, p. 47).

The high-profile 1993 World Development Report (World Bank 1993) encouraged governments in developing countries to finance "a limited package of public health measures and essential clinical interventions...redirecting resources from interventions that have high costs per DALY gained to those that cost little" (p. 8). The report had little to say about the financing of medical care beyond the "essential package". The report suggested that governments in low-income countries should encourage "increased community control and financing of essential health care" (p. 158). The authors, however, appeared to be referring to user charges and prepayment for frequent, low-cost events, such as the revolving funds for drug purchases under the Bamako Initiative (p. 159).

In the 1995 World Bank publication "Financing Health Services through User Fees and Insurance", the focus was primarily on health insurance for the formal sector (Shaw and Ainsworth 1995). The authors discussed potential benefits of insurance, including revenue mobilisation, economic efficiency, fairness or equity, as well as greater pluralism in the financing and delivery of health services. They stated that the main issue in extending health insurance to rural areas of developing countries is the difficulty in collecting premiums. They argued that programmes are more likely to be successful if premiums are collected through pre-existing groups. Furthermore, the authors identified the following as factors underlying the success of a rural health insurance scheme: quality health services; user fees at hospitals, so that there is an incentive to pay for insurance; and, an affordable premium adjusted to keep pace with inflation.

The World Development Report 2000/2001 stated that "poor people are exposed to a wide array of risks that make them vulnerable to income shocks and losses of well-being" (World Bank 2001c, p. 158) and made the argument that "the state has a special role in providing or regulating insurance and setting up safety nets" (p. 159).

While authors of the WDR 2000/2001 did not explicitly promote the idea of CBHI, they did caution that "Concerns that formal (public) safety nets will displace self-insurance or group-based mechanisms also need to be considered" (p. 148). For example, government-provided health insurance might result in the collapse of charitable networks wherein the wealthy donate money to pay for the health care costs of the poor. Government-provided health insurance that covers only specific types of people (the elderly, women, etc.) creates an incentive for these people to drop out of pre-existing group schemes, which may in turn result in the collapse of such schemes.

In general, World Health Organisation publications have had little to say on the topic of CBHI (excepting the review by Bennett, et al. 1998, see below). Two WHO documents have reviewed mechanisms of health care financing, with a focus on developing countries, and identified research needs (WHO 1978, WHO 1993). In both, discussion of insurance was largely restricted to mandatory social insurance, and community financing has generally referred to user-fees and the revolving drug funds promoted under the Bamako Initiative.

The World Health Report 2000 (WHO 2000) explicitly promoted CBHI as a means towards the objectives of better health, fair financing and responsiveness:

> *In low income countries, where there are usually high levels of out-of-pocket expenditure on health and where organisational and institutional capacity are too weak to make it viable to rely mainly on general taxation to finance health, this (the separation of contributions from utilisation) means promoting job-based contribution systems where possible, and facilitating the creation of community or provider-based prepayment schemes (WHO 2000, p. 98).*

> *Where there is no feasible organisational arrangement to boost prepayment levels, both donors and governments should explore ways of building mechanisms for the development or consolidation of large risk pools. Insurance schemes designed to expand membership among the poor offer a path for government – with external funding partners – to a rapid improvement in the health of the most vulnerable (WHO 2000, p. 139).*

The report of Working Group 3 of the Commission on Macroeconomics and Health

presented evidence, from both the micro and macro levels, to argue that CBHI "can provide an incremental, albeit first step, to improve financial protection and access to essential health services for the poor" (Working Group 3 2001, p. 6). The data presented provide weak evidence for the benefits of CBHI (primarily in terms of resource mobilisation, financial protection and access to health care services). They concluded that four key areas of policy can be used to strengthen and improve the effectiveness of community involvement in health care financing: (1) increased and well targeted subsidies to pay for the premiums of low-income populations; (2) use of re-insurance and other mechanisms to enlarge the effective size of the risk pool; (3) assistance in strengthening the management capacity of the schemes; and (4) stronger links to the benefits of existing formal financing and provider networks.

Reviews of international experience

Based on the Alma-Ata Declaration's call for resource mobilisation, Stinson (1982) conducted the first thorough review of community financing experiences in developing countries. According to Stinson's review, the primary goal of community financing is to mobilise private resources to fund public sector health care. The author acknowledged that community financing can serve other purposes (for example, to change the scope and accessibility of services). Overall, Stinson regarded prepayment schemes as having failed to meet their objectives. He concluded that "the viability of voluntary (personal prepayment) plans is questionable because people often do not want to pay for health care before they need it", and that although production-based prepayment is more stable, it is "more restricted in potential because communal organisation is a prerequisite."

Stinson identified the following factors as enhancing the success of insurance for the informal sector: co-payments to help limit overuse and generate additional revenue; clear policies regarding exemption from payment; mechanisms to promote broad enrolment; and the presence of funds that can be used to cover deficits. Further, he concluded that mobilisation and liaison efforts, technical and managerial assistance and back-up financial resources from the outside community are essential to the

success of community financing efforts.

Bennett, et al. (1998) reviewed 82 health insurance schemes for the informal sector. Schemes were evaluated in terms of efficiency, equity, consumer satisfaction and sustainability. Their results were similar to those of Stinson. "Many of the schemes examined had been poorly designed and had encountered a range of problems as a result" (p. 61). Bennett, et al. concluded that "schemes are unlikely to be suitable for widespread 'self-financing' of health care" and that "insurance should thus be seen as a supporting strategy rather than as an exclusive 'financing alternative'" (p. 62). Further, the authors suggested that many problems of existing schemes stem from their voluntary nature.[8]

Bennett, et al. pointed to a number of contextual factors that may contribute to a scheme's impact: "...political and economic situation, the structure and performance of the health care system, and links between the scheme and other community development activities." (p. vii). Their analysis suggested that government has an important role to play in facilitating the success of schemes by: developing a clear policy framework; facilitating scheme development; monitoring and regulating the schemes and providing subsidies. They also pointed to the importance of factors related to scheme design and management, including: mechanisms to prevent adverse selection and facilitate equity; development of an investment strategy; using the purchasing role to negotiate for improved quality, cost and efficiency of services; and responsiveness to consumers.

Summary of international policy statements and reviews

Review of this international literature reveals several key findings. Firstly, the goals most commonly cited for health insurance were resource mobilisation, financial protection of individuals and households, and improved access to health care

---

[8] Unfortunately, there are very few documented CBHI schemes where enrolment has been mandatory. Where data do exist, they suggest that implementing a mandatory scheme requires considerable administrative capacity (to identify households and ensure that they all pay).

services. Secondly, this literature suggested that schemes have not been very successful in terms of resource mobilisation, although mandatory schemes have been more successful in this regard than voluntary schemes. Thirdly, little empirical evidence was cited regarding other potential consequences of health insurance schemes. Finally, many broad contextual factors as well as more specific factors related to scheme design and participant roles were identified as contributing to the success of health insurance schemes. There seems to be increasing recognition that government support of such schemes – financial and otherwise – is of great importance.

REVIEW OF INDIAN SCHEMES

India is known for its diversity of cultures, languages, socio-economic classes, climates and terrains. It may not be surprising then, that India's experience with insurance schemes for the informal sector has been tremendously rich and varied. Twenty Indian, non-governmental, non-profit insurance schemes were encountered in this literature review (Table 3.3).[9] The purpose of this section is to provide examples of criteria based on which schemes have been evaluated and factors cited as contributing to success or failure.

---

[9] Several problems were faced when selecting schemes for inclusion. Firstly, a number of schemes are mediated (and typically subsidized) by an NGO, but the insurance policy is purchased from the GIC (denoted in the first column of *Table 3.3*). Nevertheless, these have been included as *non-governmental* schemes. Secondly, in at least one case, a for-profit hospital professes to run a not-for-profit insurance scheme (see the Medinova Health Card Scheme below). Only those insurance schemes specifically described as *non-profit* are included in this review.

Table 3.3: Inventory of non-governmental, non-profit health insurers in India

Name, location & year of initiation	Size of enrolled population, voluntary vs. mandatory	Premiums, benefits, direct vs. indirect	Successes & failures	Factors cited as underlying success (☺)/failure (☹)	Reference
1. Aga Khan Health Services (AKHS), Sidhpur, Gujarat Est. 1996	Meloj Milk Co-operative has a mandatory scheme, 350 enrolled. Varshila and Jonpur villages have voluntary schemes, less than 100 enrolled in total (1998 data).	In Meloj, a premium of Rs 2,500 per month covers the village. Premiums are Rs 100/family/yr in Varshila and Rs 250/family/yr in Jonpur (1998 data). Benefits apparently include free outpatient consultation and discounted drugs and diagnostic services. Direct delivery.	☺ Meloj has had positive impact on utilization and equity ☹ Varshila and Jonpur have failed to attract members – they are not sustainable	☺ Meloj successful due to mandatory enrollment, progressive fee schedule, transparency in premium calculations, low administrative costs, favorable political foundations, well-functioning co-operative; and community involvement in designing exemption schemes	Dave Sen 1997; Fairbank and Putney, 1998
2. Action for Community Organization, Rehabilitation and Development (ACCORD, with GIC), Nilgiris, Tamil Nadu Est. 1991	7,000 (1,854 families). Voluntary enrollment (1994 data).	Rs 12 per person per year covers all illnesses requiring hospitalization (also life and house insurance; 1995 data). Direct delivery.	☺ Protection from risk ☹ Low cost-recovery – difficulty convincing people to pay premiums	☺ Hospital files and settles claims with GIC; scheme more successful in areas with strong sangam (community group) ☹ Those who have not paid premiums appear to be eligible to the same benefits	International Labour Office 1998, 3(4) Prasad 1998
3. Apollo Hospital Association (with GIC) Madras, Tamil Nadu Est. 1986	10,000 (down from 80,000; ?1995 data). Voluntary enrollment.	Annual premium for a family of 4 is Rs 999, covers household costs of hospitalization up to Rs 17,600 (?1993 data). Direct delivery.	☹ Evidence of ex-post moral hazard ☹ Low consumer satisfaction and declining enrollment	☹ Failure to cover outpatient expenses and chronic illnesses; delays in processing claims	Bhat 1993, p. 180. International Labour Office 1998, 3(6)

4. Barpali village scheme, Orissa Est. 1953	Discontinued in 1961. Voluntary enrollment.	Premium of 0.40 USD per family per year (1982 data). Free services (outpatient only?) but drugs and supplies not covered. Direct delivery.	☹ Reluctance to renew membership – closed shortly after 6% renewal in the sixth year	☹ Renewals dropped when government opened a new clinic nearby and when people realized they could instead pay a user fee with each visit; inadequate community participation and isolation from traditional and political leaders	Stinson 1982
5. Breach Candy Hospital, Bombay, Maharashtra Est. ?	Voluntary enrollment. Has attracted mainly corporate clients.	Rs 30 per month for a wide range of health services (?1993 data).	NA	NA	Bhat 1993
6. Goalpara, Shantiniketan, Rural West Bengal Est. 1984	1,247 (150 out of 175 households in villages; 1993 data). Voluntary enrollment.	Premium of Rs 18 either in cash or in kind (rice or community labor; 1993 data). Free doctor consultations and drugs at cost price.	NA	☺ Drug fees waived for poor	Dave 1993 p.307-16 Dave Sen 1997
7. Kottar social service society, Kanyakumari, Tamil Nadu Est. 1971	34,000 families involved (1979 data). Voluntary enrollment. (Now may be defunct)	Rs 23 household yr for all curative and preventive services (1982 data). Direct pattern of delivery.	NA	NA	Stinson 1982

8. Mallur Milk Co-operative, Karnataka Est. 1973	7,000 in three villages. Previously, mandatory enrollment of all members of the Mallur milk co-operative (?1997 data). Now, premiums are paid from endowment fund, and all community members receive benefits.	Preventive and curative care (outpatient and inpatient). Direct pattern of delivery.	☺ Cost-recovery – entire health care expenditure of the community is now borne out of interest on the endowment fund ☹ Equity – difficult for poorest people in the area to join the scheme	☺ Strong economic base of the community; government provided vaccines, vitamins, contraceptives, disease surveillance, etc.; investment of the premium fund ☹ difficult for landless laborers to join; local sericulture and carpet weaving industries not covered	Dave 1997, p. 49-56. Purohit 1995, p. 306 Stinson 1982
9. Medinova Health Card Scheme, Calcutta Est. ?	35,000, mostly middle and lower middle class (?1993 data). Voluntary enrollment.	Direct pattern of delivery.	NA	NA	Bhat 1993, p. 180
10. Raigarh, Ambikapur Health Association, Raigarh, Orissa Est. 1974	75,000. Voluntary enrollment (?1993 data).	Premium can be paid in rice. Free outpatient care and, after paying an initial entrance fee, members receive free hospital care up to Rs 1,000. Indirect pattern of provision (?1993 data).	☹ Premiums cover referral costs, but only 10-20% outreach costs	☺ New members must wait for 2 months before they are entitled to benefits; entrance free at hospital is graded according to distance traveled.	Dave 1993, p.307-16
11. Saheed Shibsankar Saba Samity (SSSS), Burdwan, West Bengal Est. 1978	6,800. Voluntary enrollment (?1993 data).	Premium graded by income; Rs 2 individual yr for the poor and 5 for non-poor (?1993 data). Free doctor consultations and drugs at cost price.	☹ Membership fees cover only 15% of program costs	☺ Strict exclusion of non-members from benefits ☹ Members join at the time of service need	Dave 1993 p.307-16

12. Seba Co-operative Health Society (with GIC), Calcutta, West Bengal Est. 1982	?<3,000 families. Voluntary enrollment (?1993 data).	Rs 105 per member per annum. This covers hospitalization expenses up to Rs 8,000 (?1993 data).	⊗ Cost-ineffective ⊗ Limited cost-recovery and sustainability	⊗ It seems that one of the problems faced by the scheme was unduly long hospital stays.	Giridhar, et al. 1987 Giridhar 1993, p.266
13. Self-Employed Women's Association (with GIC) Ahmedabad, Gujarat Est. 1992	15,000 (of 212,000 in target population) in 1995. Restricted to women younger than 58 years Voluntary enrollment.	Individual coverage for annual premium of Rs 15. Covers inpatient costs (private or public hospitals) up to Rs 1,200, and a maternity benefit of Rs 300 (1997 data). Indirect pattern of delivery.	☺ In 50% of cases requiring medical care, the benefits are sufficient ⊗ Equity – access to services and filing of claims is more difficult for rural women ⊗ Low consumer satisfaction	☺ Strong referral network; ceiling on the amount of expenditures as guard against moral hazard; premiums can be directly deducted from members' bank account ⊗ Delays in processing claims; failure to cover families; slow and complex processing of claims	Bennett, et al. 1998 Chatterjee and Vyas 1997 Dave 1993 p.307-16 Hauck 1998 International Labour Office 1998 3(4)-3(5)
14. **Sewagram** Kasturba hospital, Wardha, Maharashtra Est. 1972	14,390 in 12 villages. Voluntary enrollment (?yr.).	Household coverage. Sliding-scale premiums paid in kind at harvest time in return for free primary care, drugs, referrals, and hospitalizations for non-chronic conditions. Only 75% coverage for hospitalization related to pregnancy or chronic conditions. Direct pattern of delivery.	☺ Social benefits include stimulation of self-confidence, organizational ability, and development activities ☺ Emphasis on low-cost, preventive and promotive activities. ⊗ Cost-recovery is low (premiums only cover outreach). ⊗ Minimal community participation	☺ High quality services, trust of providers; charisma of organizer; premiums in-kind, sliding scale, collected at convenient time; catastrophic illnesses covered; copayment to prevent moral hazard, compulsory that ~75% of village households enroll; exclusion of non members from benefits ⊗ those who live farther away less willing to join	Dave 1993, p. 307-16 Giridhar, et al. 1987 Giridhar 1993, p. 265-6 Jajoo, et al. 1985b Jajoo 1992 Sevagram Medico Friend Circle 1983

15. Social Work and Research Center (SWRC), Ajmer, Rajasthan Est. 1972	Membership by village. In 1982 covered 20,000 of a target population of 80,000. (Now may be defunct). Enrollment mandatory within communities.	Premium of 2.85 USD per family per year (1982 data). Members receive free (?outpatient) services and 75% discount on drugs	☹ Cost-recovery is low	☺ Programme emphasized agricultural modernization and general improvements in living standards ☹ Committees in some villages fail to collect premiums	Stinson 1982
16. Society for Promotion of Area Resource Centres (SPARC, with GIC) Bombay, Maharastra Est. ?	NA	NA	NA	NA	Briefly mentioned in International Labour Office 1998, 3(4)
17. Students' Health Home Calcutta, West Bengal Est. 1955	1,020,000 students covered in 1993-94. Voluntary enrollment.	Premium of Rs 4 per annum, collected through the schools (?1998 data). Free doctor consultations, drugs and hospital stays at nominal rates. Direct pattern of delivery.	☺ Extremely affordable premiums ☹ Cost-recovery – membership fees cover 34% of total costs ☹ Rising deficit, and falling quality of services ☹ Inefficient spending	☺ Physician services are voluntary; some funds are kept/spent at the regional level; strict exclusion of non-members from benefits ☹ Too much spent on inpatient services	Banerji 1995 Dave 1993 p.307-16 International Labour Office 1998, 3(2)-3(3)
18. Tribhuvandas Foundation, Anand, Rural Gujarat Est. 1993-94	16 to 20% of the target population of 800,000. Voluntary enrollment (?1993 data).	Premium of Rs 10 per household per year (?1993 data). (Primary care is free to all.) Members receive referrals and inpatient care at 50% of cost; drugs at subsidized rate. Indirect delivery.	☹ Limited cost-recovery – costs of hospitalization are heavily subsidized	☺ Poor non-members are entitled to free outpatient drugs and services ☹ No official waiting period between enrolling and entitlement to benefits.	Bennett, et al. 1998 Dave 1993, p.307-16

19. Urmal rural health centre and research development trust Bikaner and Jodhpur, Rajasthan Est. 1986	Members of milk co-operatives. (Now may be defunct). Voluntary enrollment.	Annual premium plus tax of 3 paise/liter of milk (1990 data). Households covered. Outpatient and inpatient care covered.	NA	NA	Bennett, et al. 1998
20. Voluntary health services (VHS), Medical Aid plan Chennai, Tamil Nadu Est. 1963	124,715 (03/1995). Voluntary enrollment.	Membership fee graded according to monthly income. Free annual health checkup; curative and diagnostic services for outpatient and inpatient services at discounted rates. Direct pattern of delivery.	⊗ Extreme problem with adverse selection – only the sick opt for the plan, and generally at the time of service need ⊗ Low level of cost-recovery	⊗ Many enroll only when referral treatment is required; members may miss-report income	Athmaraman 1995 Dave 1990 Gupta, et al. 1992, 54-5 International Labor Office 1998, 3(2) Stinson 1982

The schemes varied tremendously in terms of their age, the oldest starting in 1955 (Students' Health Home) and the youngest in 1996 (Aga Khan Health Services). Doubtless there are younger and short-lived schemes that were not reported in the published literature. The smallest schemes covered only hundreds of people, and the largest more than a million (Students' Health Home). Membership in almost all of the schemes was voluntary, with only a few schemes having some component of mandatory enrolment (Aga Khan Health Services, Mallur Milk Co-operative , Social Work and Research). The premiums paid to the schemes were generally flat-rate premiums paid on an annual or monthly basis. However, a few of the schemes had premiums that were graded according to income (Saheed Shibsankar Saba Samity, Sewagram, and Voluntary Health Services). Services were generally provided directly by the insurer (16 of the 20 schemes reviewed). The services covered varied markedly between the schemes, with roughly one-third covering outpatient care only, one-third covering inpatient services only, and one-third covering both outpatient and inpatient services.

Outcomes based on which schemes were evaluated

Cost-recovery was the most common measure used to determine the success of Indian health insurance schemes for the informal sector. Rates of cost-recovery varied tremendously. Premium revenues represented only 4% of total revenues at the Voluntary Health Services scheme (1987-88 data, Bennett, et al. 1998) while all health care costs of members of the Mallur Milk Co-operative scheme were fully covered by interest on past contributions (Purohit 1995). Interestingly, the two schemes most successful at recovering costs were co-operative based (the Mallur Milk Co-operative and the Aga Khan Health Services' Meloj Milk Co-operative), with mandatory enrolment for all co-op members (Dave Sen 1997, Fairbank and Putney 1998, Purohit 1995). Rates of cost-recovery were particularly low among the three NGO-based schemes that covered only outpatient services (Barpali, SSSS and SWRC).

Other outcomes based on which schemes were evaluated included: consumer satisfaction, protection of members from financial risk, and impact on utilisation, quality and efficiency of health care services. Several of the schemes that were managed jointly by an NGO and the Government Insurance Company failed in achieving consumer satisfaction. For example, consumers abandoned the Apollo Hospital Association scheme over its refusal to cover chronic ailments and non-hospitalised treatment (International Labour Office 1998). Chatterjee and Vyas (1997) were the only authors to evaluate a scheme in terms of its ability to protect members from financial risk. They found that the SEWA scheme fully covered medical costs in only 50% of hospitalisations. The Meloj Milk Co-operative scheme improved the utilisation of (AKHS) health care services from 25% of co-op members to 90% (Fairbank and Putney 1997). The Mallur Milk Co-operative scheme was successful in improving the quality of health care services, to the extent that members chose to use the Mallur Health Centre rather than the nearby government (theoretically free) health center (Dave 1997). The Sewagram scheme was hailed by one author as having enhanced allocative efficiency by increasing the utilisation of preventive and promotive care. According to Jajoo (1992, p. 193), "no vaccine-preventable illness was reported in children or mothers since mass immunisation was instituted under the (Sewagram) scheme".

The social consequences of health insurance were mentioned by only two authors. Organisers of the Students' Health Home scheme had apparently set as an objective, "to develop in (students) the idea of civic responsibilities towards themselves and to the community" (Banerji 1995, p. 2). No indication was given as to whether or not this objective was achieved. Jajoo (1992, p. 174) stated that the Sewagram scheme has had positive social consequences by fostering "a perception by people that they have a right to demand health care of high quality" and by stimulating "self-confidence, organisational ability, and development activities."

Factors underlying success

A number of broad contextual factors were cited as having influenced the outcome

of the Indian insurance schemes. For example, the Mallur Milk Co-operative scheme benefited from the strong economic condition of the community, the political power of the milk co-operative, and a supportive political environment (Purohit 1995; Dave Sen 1997). Stinson (1982) suggested that the Barpali Village scheme failed in part due to the opening of a new government clinic in the same geographic area.

In large part, authors attributed the success or failure of Indian schemes to aspects of scheme design and management.[10] Mechanisms seen as having a positive impact on equity of financing included: the income adjusted fee schedule at Saheed Shibsankar Saba Samity (Dave 1993); the provision of subsidy for the payment of premiums at the ACCORD scheme (Prasad 1998); and the Sewagram scheme's flexibility in allowing people to pay in cash or kind (Jajoo 1992).[11] Dave (1997) suggested that the Tribhuvandas scheme improved equity of health care delivery by providing free outpatient care to the non-enrolled. A variety of mechanisms were cited as having limited adverse selection and moral hazard. For example, the two-month waiting period prior to entitlement to benefits at Raigarh, Ambikapur Health Association (Dave 1993), and the minimum membership of 75% of households under the Sewagram scheme, were thought to have limited adverse selection. Dave (1993) suggested that the Sewagram scheme benefited from its policy of strictly excluding the non-enrolled from scheme benefits (i.e. preventing free-riding).

Managerial (and actuarial) skills appear to have been important to the success of Indian insurance schemes. Both the Social Work and Research Centre scheme (Stinson 1982) and the Students' Health Home scheme (Banerji 1995) failed in recovering costs as a result of premiums being set too low. Fairbank and Putney (1998) pointed to low managerial costs, and premiums that are calculated in a simple and transparent manner, as being beneficial aspects of the AKHS Meloj scheme.

---

[10] In fact, many authors labelled schemes as successes or failures based solely on scheme design, with little regard for actual impact or outcomes.

[11] Although according to Giridhar, 1993, contributions in kind did not work particularly well

Both the Mallur Milk Cooperative (Dave Sen 1997) and the Sewagram scheme were seen to have benefited from strong and dynamic leadership. Organisers of the SEWA scheme emphasised the importance of trust in the scheme's management and leadership: "...the key (to success), apart from quality and timeliness, is the faith and trust in the institution which organises these services" (Chatterjee and Vyas 1997).

Very few factors related to the role of beneficiaries, health care providers, government and external donors were cited as contributing to the success or failure of the Indian schemes. Successes of the Mallur Milk Cooperative scheme (Dave Sen 1997) and the ACCORD scheme (Prasad 1998) were attributed in part to community organisation, ownership and participation. Lack of community participation, and isolation of the scheme from traditional and political leaders in the area, may have contributed to the downfall of the Barpali Village Scheme (Stinson 1982). Jajoo (1992) alone commented on the importance of the (perceived) quality of health care, arguing that success of the Sewagram scheme was related to trust of the villagers in the health care services. The Mallur Milk Cooperative scheme benefited from technical support provided by a nearby medical college (Dave Sen 1997).

Several generalisations can be made based on this review of literature on Indian insurance schemes. Firstly, cost-recovery was the measure most commonly employed in determining whether a scheme succeeded or failed and social consequences were seldom described. Secondly, the success or failure of an insurance scheme was often attributed to its design or management. However, social factors, such as community participation, were considered important by some authors. Finally, there did seem to be a bias towards looking at the positive consequences and characteristics of insurance schemes, perhaps in part because the authors were, in some cases, insurance scheme organisers or administrators (for example, Chatterjee and Vyas 1997 and Jajoo 1992). Hence, this review may not be particularly useful in identifying areas (and ways) in which the negative

consequences of health insurance should be further studied.

CONCLUSIONS

Review of the Indian and international literature confirms that the economic perspective predominated in evaluations of CBHI schemes. The measures most commonly employed in evaluation included cost-recovery, resource mobilisation, financial protection of individuals and households, and health services utilisation. The success or failure of CBHI schemes was often attributed to scheme design or management, although many broad contextual factors were also recognised as being of importance. For example, there seemed to be increasing recognition that government support is an important determinant of success. There is ample theoretical literature (although most of it from developed countries) suggesting that health insurance may have far-reaching social consequences, and that social context may impact on the success of health insurance schemes. Few empirical studies have investigated the social consequences or social factors underlying the success of health insurance.

Table 3.4 summarises the findings of the literature review. This table adds detail to the framework illustrated in Figure 3.1, and it serves as the theoretical framework for the research methodology. The first column describes aspects of the social, economic, political and health sector environment that were described (or postulated) as being related to the success of insurance schemes. The second column represents more direct (or proximal) determinants of success, including specific aspects of scheme design and management. The final column lists some of the potential consequences of a health insurance scheme, broadly classified as economic and social consequences.

Based on the literature reviewed in this section, one can begin to add detail to a model of the association between contextual factors and the consequences of health insurance schemes. For example, both the international literature and reviews of the Indian insurance schemes suggested health insurance may be more successful in

communities where communal organisations exist. This is consistent with theory around social capital and economic theory. According to social capital theory, a history of collaboration and co-operation will allow members of a communal organisation to work successfully with one another on new ventures. According to economic theory, mandatory enrolment (enforced through the co-operative) can be used as a mechanism to enhance the financial viability of a health insurance scheme.

This literature review has identified a number of gaps in current knowledge around CBHI. Little empirical evidence is available regarding the consequences of CBHI schemes, and this is generally limited to economic indicators, particularly those for which data are easily available (for example, cost-recovery). Virtually no attempts have been made to explore the potential social consequences of health insurance in different settings. While there does seem to be a consensus on the importance of certain aspects of scheme design and management, there are few data on other factors that may contribute to the success of health insurance schemes – for example, the roles played by beneficiaries, and broader contextual factors like levels of social capital. Without these data, it is difficult for health policy makers in developing countries to make informed choices between available mechanisms of health care financing. Policy makers should be made aware of the likely costs and benefits of CBHI in order to choose strategies aimed at maximising social welfare. Data on the factors that help or hinder CBHI schemes will enable scheme administrators to optimise aspects of scheme design and management. Furthermore, government, donors, NGOs and scheme managers require information on the context and target populations among whom CBHI schemes are most likely to succeed, and the contextual factors that can be changed in order to optimise the success of CBHI schemes. The following chapter describes in detail the specific research objectives and the methodology that has been used to address them.

Table 3.4: Potential impact of health insurance schemes, and factors that may influence impact

Context	Scheme design & management	Impact
Social context: • Social capital -- networks, norms, and social trust that facilitate coordination and cooperation **Economic context:** • Competitiveness of health insurance and health care markets • General economic condition of the community • Income levels and distribution **Political context:** • Commitment by government to making the sector more effective • Degree of decentralization/strength of village-level governance **Health sector:** • Structure and performance of the health care system • User fees charged for health services	**Enrolment process & premium:** • Mechanisms to target poor and remote populations • Affordable premium that keeps pace with inflation, collected during harvest season **Benefits package:** • Well defined benefits package (catastrophic events only?) with clear exemption policies • Health care services that are accessible and of acceptable quality **Funding:** • Availability of (external?) back-up fund to cover deficits **Other design:** • Mechanisms to prevent moral hazard, adverse selection, under-enrollment, corruption, fraud, cream-skimming • Links with other organizations (e.g. work co-operatives) **Scheme management:** • Management is an active purchaser of services • Sound financial management (data-based setting of premiums, good financial accounts, investment of premium funds, low administrative costs) • Dedicated, decentralized management • Regular (external?) monitoring of the scheme • Dynamic, charismatic leadership • Community involvement in scheme design and management • External support to help with scheme design, management and monitoring	**Economic (traditional) areas of impact:** Access to health care Protection from the costs of health care Equity of access to health care Financial sustainability Mobilization of resources Consumer satisfaction Quality and efficiency of health care **Social areas of impact:** Civic-mindedness Empowerment and self-confidence Conflict in families, and between patient and provider Status of allopathic and traditional systems of medicine Access to medical care among the elderly and other disadvantaged socio-economic groups Mobility in the labor market Satisfaction or well-being related to the ability to 'give gifts' Nature and prevalence of risky behavior

CHAPTER 4: RESEARCH OBJECTIVES AND METHODOLOGY

The purpose of this chapter is to describe and justify the choice of research methodology. The first section reviews the aims and objectives of the study. The second section justifies the choice of a case-study approach that combines qualitative and quantitative methods. The third section briefly describes the study setting. The fourth section provides details of the methods used in collecting, entering and analysing data. The fifth and final section outlines the criteria used in later chapters to assess the quality of the research.

AIMS AND OBJECTIVES

Aims

The aim of this research is to contribute to the body of knowledge regarding the potential consequences of health insurance and the factors that may determine the performance of health insurance schemes. The new information generated is intended to be useful to policy makers both in choosing between different mechanisms of health care financing, and in optimising the design and management of CBHI schemes and allowing for the broader context in which they operate. Gaps in previous research are addressed by six specific objectives:

1/ To evaluate two Indian CBHI schemes in terms of their impact on the frequency of hospitalisation. *It is hypothesised that CBHI will increase the frequency with which members are hospitalised by removing some component of the financial barrier to seeking inpatient care.*

2/ To evaluate the two CBHI schemes based on the extent to which they protect member households from the costs of inpatient care. *The hypothesis related to this objective is that the costs of inpatient care are financially burdensome (i.e. resulting in indebtedness, impoverishment) and that by covering some portion of these costs, a CBHI scheme will confer financial protection.*

3/ To further assess the schemes on the basis of coverage (inclusion of the poor)

and equity of access to scheme benefits. *It is hypothesised that welfare-oriented CBHI schemes will include the poor in their membership and will ensure that the poor use services provided under the scheme.*

4/ To examine whether or not there are additional goals that participants in the CBHI schemes (including target populations, scheme administrators, health care providers, governments and external donors) feel these schemes should fulfil. *The hypothesis related to this objective is that traditional economic indicators of success do not capture the full effects of health insurance schemes as they are anticipated or perceived by participants (e.g. empowerment, community participation, social cohesion).*

5/ To explore contextual factors, and aspects of the CBHI schemes' design and management, that participants associate with the schemes' success or failure. *The hypothesis related to this objective is that aspects of the social, political, economic and health systems environment, along with scheme design and management, contribute to the success of CBHI schemes. Social capital, in particular, is hypothesised to facilitate enrolment in, and financial sustainability of, CBHI schemes.*

6/ In the light of research findings, to identify implications for NGOs, government and external aid agencies as to whether CBHI schemes of the type studied should be expanded or replicated, and if so, the contextual factors that will facilitate their success.

DEVELOPMENT OF THE METHODOLOGY

Theoretical framework for the research

The literature reviewed in the previous chapter was used to develop Table 3.4. This table provided the basic framework for the study's methods and data collection.

Choice of a case study approach

The nature of the aims and objectives led to the choice of the case study approach, and to the use of both qualitative and quantitative methodologies. The following

aspects of the aims and objective led to use of the case-study approach:

1/ The objectives are broad and complex and require "an investigation of a real life intervention in detail, where the focus is on how and why the intervention succeeds or fails, where the general context will influence the outcome and where researchers asking the questions will have no control over events" (Keen and Packwood 1995, p. 2 of 7).

2/ CBHI depends "for its success on the involvement of several different interested groups. Each group may have a legitimate, but different, interpretation of events; capturing these different views is often best achieved by using interviews or other qualitative methods within a case study design (Keen and Packwood 1995, p 2 of 7).

3/ Parker (1975) argues that the case study is most appropriate for testing a hypothesis when "the size of category of phenomena to which cases belong" is small (p. 15). According to the published literature, there currently exist fewer than 20 non-governmental, non-profit health insurance schemes in India.

Once a broad research question has been identified, there are two approaches to the design of case study research (Keen and Packwood 1995, p. 3 of 7). In the first approach (deductive, realist), precise questions are posed at the outset of the research and data collection and analysis are directed towards answering them. The second approach (constructive, inductive) starts by asking broad questions such as "What is happening here?" and "What are the important features and relationships that explain the impact of this intervention?" These questions are then refined and become more specific in the course of the fieldwork and a parallel process of data analysis. Others argue that both the "tight" and "loose" approaches need to be used together:

> *That task [describing and analysing a pattern of relationships] requires a set of analytic categories. Starting with them (deductively) or getting gradually to them (inductively) are both possible. In the life of a conceptualisation, we need both approaches... to pull a mass of facts and findings into a wide-ranging, coherent set of generalisations (Miles and Huberman 1994, p. 17).*

The objectives of the current study are diverse in nature, and require a broad

examination of CBHI schemes. Figure 4.1 illustrates how quantitative (*A* in Figure 4.1) and qualitative (*B*) methodologies can be used to complement one another in addressing the study's objectives. Objectives 1 to 3 involve specific questions (*A1* in Figure 4.1), most of which were known from the conceptualisation of the study, like, "What has been the impact of CBHI on frequency of hospital admission?" Such questions may best be addressed using quantitative methodologies (*A2*), that will generate potentially generalizable findings. However, these specific questions may also be posed using qualitative methodologies (*B1*) and it may happen that the results of the quantitative study generate new questions (*A3*) that can best be addressed using qualitative methodologies (*B4*). For example, if the study finds that CBHI does not increase the frequency of hospital admission, then qualitative interviews may be used to determine, "Why not?" Objective 4, on the other hand, involves generating theories and hypotheses, based on the real experiences of the participants, as to the goals that should be fulfilled by CBHI. Thus, the original question is a rather vague one: "What do you feel this CBHI scheme should be trying to achieve?" Through preliminary qualitative data collection and analysis (*B1*) hypotheses can be generated (for example, that CBHI empowers women to make their own decisions about health care) and more specific questions can be developed for further qualitative (*B4*) or quantitative work (*A2*); for example, "Has CBHI changed the patterns of medical decision making in your household?"

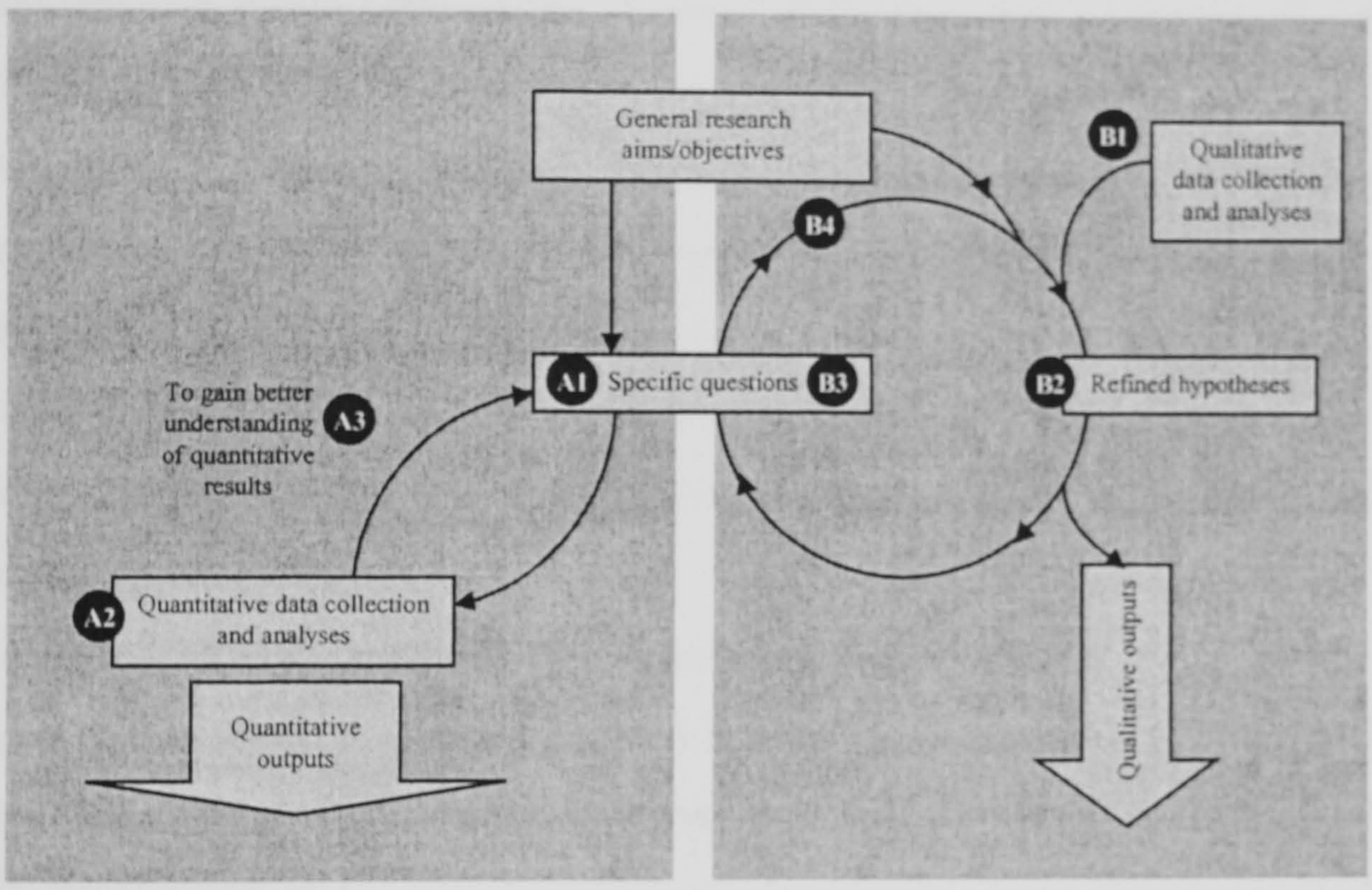
"A distinctive but not unique feature of case study research is the use of multiple methods and sources of evidence to establish construct validity (i.e. to ensure that the study measures the phenomenon, or construct, that it was intended to measure)" (Keen and Packwood 1995 p. 4 of 7). Triangulation is:

> *...a research strategy that involves using several methods to reveal multiple aspects of a single empirical reality... Triangulation assumes that looking at an object from more than one standpoint provides researchers and theorists with more comprehensive knowledge about the object (Miller 1997, p. 25).*

What kinds of triangulation can there be? Following Denzin's classic distinctions, we can think of triangulation by data source (which can include persons, times, places, etc.), by method (observation, interview

document), by researcher (investigator A, B, etc.), and by theory. To this we can add data type (qualitative text, recordings, quantitative). How to choose which? The aim is to pick triangulation sources that have different biases, different strengths, so they can complement each other (Miles and Huberman 1994, p. 267).

Figure 4.1: Interplay between quantitative and qualitative methodologies



Quantitative methods have developed largely to confirm or verify theory (Coast 1999). They "persuade the reader through de-emphasising individual judgement and stressing the use of established procedures, leading to more precise and generalizable results (Miles and Huberman 1994, p. 41). Quantitative methods can enhance the qualitative side of a study in a number of ways (Miles and Huberman, p. 41):

- by finding a representative sample and locating deviant cases;
- by supplying background data, getting overlooked information, and helping avoid a bias towards high-status respondents;

- by showing the generality of specific observations;
- and, by casting new light on qualitative findings.

The aim of qualitative research is to try to "grasp phenomena in some holistic way or to understand a phenomenon within its own context or to emphasise the immersion in and comprehension of human meaning ascribed to some set of circumstances or phenomena" (Coast 1999, 346-7). Its weakness, in comparison to quantitative research, is that it does not provide empirical data which are statistically generalizable to whole populations. Coast (1999) describes a number of ways in which qualitative modes of enquiry can be used by health economics:

- Inductive development of theory either within the framework of neo-classical economics (assumes that man is rational and independent, at least in terms of tastes) or alternative philosophical bases;
- Used in the development of the survey to ensure that relevant concepts have been captured and that the language used in questionnaires is comprehensible to survey respondents;
- To improve understanding of the quantitative results obtained.

In this thesis, qualitative methods are used in all of these ways, although primarily to explore the consequences and determinants of CBHI that fall outside the realm of neo-classical economics.

The case study-methodology, mixing quantitative and qualitative methodologies, has been used by several other researchers in investigating CBHI schemes. Notably:

- Criel (1998a; 1998b) studied several schemes in Central Africa (two in the Democratic Republic of Congo and one in Rwanda);
- Arhin (1995) studied the Carte d'Assurance Maladie in Burundi and the village Abota system in Guinea Bissau;
- Atim studied schemes in Central and West Africa (Atim 1998; Atim, et al. 1998).

STUDY SETTING

Choice of study setting

This study was carried out in Kheda District (recently divided into two districts, Kheda and Anand, but referred to throughout as Kheda), Gujarat. A single geographic area was chosen in order to make the study financially and logistically feasible. There was found to be clustering of CBHI schemes in three geographic areas of India: Gujarat/Maharastra, Tamil Nadu and West Bengal. Gujarat was selected for this study largely because the Principal Investigator (MKR) was able meet with, and obtain permission for research from, administrators of TF and SEWA during a reconnaissance trip of December, 1998. The Principal Investigator was made aware of TF's hospital referral scheme and SEWA as they had been described (as "prepayment/insurance" schemes) in the published literature, first and foremost by Dave (1993). Both schemes involved prepayment for health care, and coverage against the costs of hospitalisation.

Geographic location

Gujarat is situated in north-western India. It has a long and varied history, and is particularly well known as site of the 51st Republic Day Earthquake (January 26th, 2001), the birthplace of Gandhi, and the site of many important events in the life of Krishna. In 1991, the population of Gujarat was 89.53% Hindu, 8.53% Muslim, 1.19% Jain, 0.44% Christian and 0.08% Sikh (Government of Gujarat 1996). Only 3 states have a higher percentage of Hindus. At the time of the 2001 census, the population of Gujarat was 50.6 million (almost 5% of India's total population of 1,027 million) making it the tenth (of 28) most populous state (Office of the Registrar General 2001). Gujarat has an area of almost 200,000 square kilometers, and a population density of 258 persons per square kilometer (the average for India is 324 persons per square kilometer). Compared to India as a whole, Gujarat is more urban; roughly 37.4% of Gujaratis live in urban areas compared to only 27.8% of all Indians (Office of the Registrar General 2001). In general, Gujarat compares favourably to India as a whole with respect to social, economic and demographic

indicators (Table 4.1).

As is the case for India overall, health care in Gujarat is largely privately financed, individually purchased by fee-for-service payment, privately produced, and unregulated (see Chapter 2). In terms of health care indicators - input, process and outcome - Gujarat tends to be an average performer; it pales in comparison to the best performing states (for example, Kerala) but does far better than the worst performers (for example, Uttar Pradesh; Table 4.2). One of the ways in which Gujarat differs most markedly from India overall is in the importance of private health care provision (particularly inpatient). Some 85% of hospitals and 58% of inpatient beds are owned by the private sector, compared with 68 and 37% nation-wide (1996 data, Central Bureau of Health Intelligence 1995 & 1996). A 1993 study found that 68% of hospitalisations among males in rural Gujarat were taken at private facilities, compared with 38% among rural males nation-wide (Sundar 1995). Given that the number of hospitals, doctors and nurses per unit of population is relatively high in Gujarat (see Table 4.2), and that the private sector predominates, it is surprising that private expenditures per capita and medical indebtedness are relatively low.

Table 4.1: Select social, economic and demographic indicators for Kheda (now Anand and Kheda) District, Gujarat and India

Indicator	Anand District	Kheda District	Gujarat State	India
2001 Population, millions (1)	1.86	2.02	50.60	1,027.02
2001 Density, persons/sq. km (1)	631	480	258	324
2001 % Rural (1)	77.20 (1991 data)		62.65	72.21
1991 % Hindu (1)	87.70		89.48	82.41
1998-99 Per capita income, Rs. (2)	NA		18,792	14,682
1993-94 Monthly per capita consumption expenditure, Rs. (2)	NA		355	327
1991 Scheduled castes as % of total (1)	5.91		7.41	16.48
1991 Scheduled tribes as % of total (1)	1.19		14.92	8.08
2001 Male literacy rate (1)	86.31	86.58	76.47	75.85
2001 Female literacy rate (1)	62.53	57.77	55.61	54.16
2001 Females per 1000 Males (1)	922	939	921	933
2001 Population growth rate over previous 10 years (1)	13.03	13.24	22.48	21.34

Source: 1 = Office of the Registrar General, Government 2001; 2 = Government of Gujarat (Directorate of Economics and Statistics) 2001

Table 4.2: Health system input, process and outcome indicators for Gujarat, All-India, Kerala and Uttar Pradesh

Indicator	Gujarat	All-India	Kerala	Uttar Pradesh
Input Indicators				
1995-96 Per capita public spending on health Rs. *(2, p. 129)*	99	NA	132	72
1995-96 Per capita private spending (approx.) Rs. *(2, p. 130)*	160	NA	440	315
1991 Hospitals per 100,000 rural population *(4)*	0.70	0.57	5.34	0.07
1991 Hospital beds per 100,000 rural population *(4)*	31.34	22.26	202.94	6.93
1991 PHCs per 100,000 rural population *(4)*	3.24	3.55	4.27	3.27
1991 Sub-centers per 100,000 rural populations *(4)*	26.41	20.90	23.85	18.09
1991 Doctors per 100,000 rural population *(4)*	52.98	47.19	56.72	23.91
1991 Nurses per 100,000 rural population *(4)*	59.00	36.88	78.41	9.24
1996 Hospitals private % *(5)*	85	68	93	NA
1996 Hospital beds private % *(5)*	58	37	64	
Process Indicators				
1999 Full prenatal care % *(1)*	36	28	85	11
1999 Institutional deliveries % *(1)*	46	34	97	16
1998-99 Full immunization % *(1)*	58	54	84	44
1995-96 Public hospitalization rate per 1,000 *(1)*	9.05	7.26	5.81	4.40
1995-96 Private hospitalization rate per 1,000 *(1)*	19.46	9.28	4.48	5.65
1998-99 DPT 3 (% of children age 12-23 mos who rec'd before 12 mos) *(3, p. 209)*	64.1	55.1	88.0	33.9
1998-99 % of deliveries by caesarian section *(3)*	8.5	7.1	NA	NA
1998-99 % of deliveries assisted by a health professional *(3, p. 305)*	53.5	42.3	94.0	22.4
1993 Use of private facilities for outpatient care (rural males) *(6)*	62.2	54.5	71.7	67.2
1993 Use of private facilities for inpatient care (rural males) *(6)*	67.8	38.0	35.3	35.1
Outcome Indicators				
Income bias in public spending on curative care: ratio of subsidy to riches vs. poorest quintile (2)	1.14	3.28	1.10	4.09
1995-96 Hospitalized people below the poverty line who financed care in public hospitals from borrowing or sale of assets % (2, p. 157)	28	39	31	48
1995-96 Hospitalized people below the poverty line who financed care in private hospitals from borrowing or sale of assets % (2, p. 157)	29	45	46	34
1998-99 Total fertility rate (15-49) (3, p. 89)	2.71	2.84	1.96	3.99
1998-99 Total fertility rate (15-44) (3)	2.70	2.85	NA	NA
1998-99 Infant mortality (birth to one year) *(3, p. 194)*	62.2	67.6	16.3	86.7
1998-99 Child mortality (between 1st and 5th) birthdays *(3, p. 194)*	24.0	29.3	2.6	39.2

Source: 1 = NSSO 52nd Round (from Peters, et al. 2001, p. 50); 2 = Peters, et al. 2001; 3 = International Institute for Population Sciences and ORC Macro 2000; 4 = Duggal, et al. 1995; 5 = Central Bureau of Health Intelligence 1995 &1996; 6 = Sundar 1995.

Tribhuvandas Foundation's hospital referral scheme

The Tribhuvandas Foundation was established in 1975. Seed money in the amount of 650,000 rupees was provided by Shri Tribhuvandas Patel, the founding chairman of Amul Dairy, "to initiate a project for improving the health of women and children in Kheda District" (TF Annual Report 1998-99). The Foundation became functional in 1980, servicing some 53 villages during its first two years. Today, the Foundation provides a broad variety of health and related services, focusing on primary and preventive care, in some 644 villages. The Foundation has its head office in Anand. It is a "sister" organisation to Kaira District Cooperative Milk Producers' Union Limited, and it draws on many of the management and administrative structures of the village level dairy co-operatives.

Today, Tribhuvandas Foundation is operating in some 644 villages. Officially, households pay a total of 10 rupees per annum (for the whole household, regardless of its size) in order to become members of TF. It seems that the membership fee was set in a relatively *ad hoc* manner in 1980 and has never been changed. Membership is most often voluntary and open to all residents of villages where TF operates. The TF village health worker (VHW) normally enrols families at the office of the village dairy co-operative at the time of the annual bonus distribution. However, membership fees can be paid at any time throughout the year. In some villages, based on a decision made in the Dairy Cooperative Society general body meeting, the membership fee is automatically (mandatorily) deducted from the bonus as it is distributed. Upon paying the membership fee, a receipt is filled out in triplicate, with one copy given to the member, one forwarded to the nearest sub-centre, and one retained by the VHW or the Dairy Secretary.

The current activities of TF are many and varied (see *Box 4.1*). Village-level health services are provided by female TF Village Health Workers (VHWs), one per village. VHWs are supervised by some 70 field-workers who visit each village once every fortnight. Generally, there is no discrimination between members and non-members in terms of the village-level services. That is to say, members and non-

members alike receive free community health services and subsidised medications.

Box 4.1: Services Offered by TF, 1997 to Present

1/ Pregnant and Nursing mothers are provided treatment.
2/ Malnourished children are provided treatment at home as well as at the Child Care Center (Nutrition Rehabilitation Center) run by the organisation.
3/ Children are provided vaccines (DPT, Polio, BCG, Measles, etc.)
4/ TB patients are provided treatment at home at free cost.
5/ Pregnant mothers at risk are hospitalised at the organisation and provided treatment.
6/ As part of temporary methods of Family Planning, Nirodh, Copper T and Birth Control pills are provided in the villages.
7/ Every week Family Planning Operation camps are organised at the main centre as well as the sub-centres in which laparascopic and open surgeries are done.
8/ Pregnant women who want delivery at home are provided with a safe delivery kit.
9/ Gynecologic problems are treated by Shri Krishna Hospital's Gynecologists and Obstetricians at the TF sub-centres.
10/ For advice of specialists and for further treatment, patients are either hospitalised at the Shri Krishna Hospital at Karamsad or seen by specialist in the sub-centre's out-patient department.
11/ A Nursery programme is run in the villages for children below five years of age.
12/ Women are provided training free of cost, and supplementary income in handicrafts (patchwork) so that they can generate income while sitting at home.
13/ Women who work in their free time are provided additional income for their families through the Patchwork Programme.
14/ Under the Environmental Sanitation Programme, low cost toilets and cooking stoves are constructed.
15/ The organisation prepares and shows health-related video films to bring awareness amongst rural people.
16/ With the help of the Blood bank of Shri Krishna Hospital Karamsad, blood donation camps are organised in the villages.
17/ Nutritious food is distributed in the villages at nominal cost.
Source: Derived from TF brochure, 'Health And Rural Development Programme'

TF's hospital referral scheme (number 10 in *Box 4.1*) is the focus of this study. Until late 1999, TF members received a discount for inpatient services at the Shri Krishna Hospital, located near Anand town (the largest urban area in Kheda District). Individuals who were identified as being particularly ill or malnourished were referred to TF's headquarters (in Anand) or one of TF's four sub-centres. TF patients who required specialised care were referred to the Shri Krishna Hospital "where specialists and modern diagnostic facilities are available" (TF 1999). A TF worker was available full-time at the hospital to assist TF members coming from the different villages. TF members generally received a 50% discount on the total hospital bill, but this varied according to level of need (for example, very poor families would receive a 100% discount while wealthier families would receive no discount). The amount of the discount was left largely to the medical doctor heading the department to which the member was admitted. TF members are no longer

receiving special benefits at Shri Krishna Hospital (although children under 5 continue to receive free care, there is a special scheme for women, and the poor may be provided with a discount on a case-by-case basis).

After paying the membership fee, there was no waiting period before members were able to avail of TF's hospital referral scheme. Members have always been allowed to purchase membership after falling ill.

As mentioned above, the Tribhuvandas Foundation was started with money provided by Shri Tribhuvandas Patel. As well, several domestic and international funding agencies (including UNICEF and the Overseas Development Administration, United Kingdom) contributed to the Foundation in its early years. Today, the Foundation's main sources of income include: Amul Dairy through the National Federation of Rural Development, interest on funds, user-fees charged for medicines, membership fees, and Dairy Cooperative Society contributions.

Monthly, the Shri Krishna Hospital forwarded to TF a report (or bill) detailing the total cost of TF member hospitalisations, and tallying the discounts that were provided to TF members. Since the inception of the referral scheme, the concessions provided to TF patients at Shri Krishna Hospital have been offset by a donation from Kaira Can, a sister concern of Amul Dairy. The amount of the payment, however, has been fixed at 500,000 per annum. At least during the last five years, no additional payment has been made by TF to the Shri Krishna Hospital. Meanwhile, the total amount of concessions provided to TF patients at Shri Krishna Hospital has grown considerably since 1980. In recent years the Shri Krishna Hospital has incurred considerable financial loss in providing reduced-cost care to TF patients (Table 4.3). It was for this reason that the scheme was discontinued late in 1999, largely at the insistence of administrators at Shri Krishna Hospital.

Table 4.3: Annual debt incurred by Shri Krishna Hospital in providing concessions to TF patients, 1996/97 to 1998/99

Fiscal Year	Shri Krishna Referral Costs (Rs)	Donation by Khera Can (Rs)	Debt Incurred by Shri Krishna (Rs)	TF Membership fees* (Rs)
1996/97	1,771,707	500,000	1,271,707	869,067
1997/98	1,458,624	500,000	958,624	918,600
1998/99	1,312,886	500,000	812,886	1,018,200

* Shown only for comparison sake; these membership fees are not used to offset the costs of referral care at Shri Krishna Hospital.

It is debatable whether the TF's hospital referral scheme should be defined as a health insurance scheme or simply a charity (and the membership fee as a premium or a donation, respectively). It operated like a medical insurance scheme insofar as people paid a small amount of money in advance of falling ill, in return they were eligible to receive a discount on hospital costs, and even if they were not hospitalised, their membership fee was not returned. It was based on these characteristics that the scheme was selected for this study. However, it was unlike a health insurance scheme in several ways. Firstly, the membership fee was extremely low (and was often halved or waived completely) and was never intended to cover, or even offset, the hospitalisation costs of members. Secondly, people could not count on receiving benefit at the time of hospitalisation; this was dependent upon an assessment of the member's wealth. Thirdly, it was not managed like a health insurance scheme. For example, people were allowed, and encouraged, to purchase a membership even after they had fallen sick, and even when they were en route to the hospital.

Appendix 9 describes a new scheme, the Sardar Patel Insurance Scheme, which started functioning (on a very small scale) on January 26th, 2001. The new scheme was not evaluated under this study.

SEWA's Medical Insurance Fund

The SEWA movement was started by Ela Bhatt in Ahmedabad in 1972. "It is an organisation of poor, self-employed women workers. These are women who earn a

living through their own Labor or small businesses. They do not obtain regular salaried employment with welfare benefits like workers in the organised sector. They are the unprotected Labor force of (India)" (SEWA 1999, p. 9). SEWA Union, the umbrella organisation, has two main goals. First, to organise women workers to achieve full employment, i.e. work security, income security, food security and social security. Second, to make (women) individually and collectively self-reliant, economically independent and capable of making their own decisions. Approximately 68% of SEWA's 215,000 members reside in Gujarat.

SEWA's Integrated Insurance Scheme was initiated in 1992. This Scheme provides life insurance, medical insurance and asset insurance. This study deals exclusively with the Medical Insurance Fund. In order to join the Fund, women must be between 18 and 58 years of age, and they must be members of the larger SEWA Union (membership fee of Rs. 5 can be purchased at the same time as paying the insurance premium). Those who pay the annual IIS premium of Rs. 72.5 (1.67 US$; Rs. 30 of which is earmarked for medical insurance) are covered to a maximum of Rs. 1,200 (28 US$) yearly in case of hospitalisation. Women also have the option of becoming lifetime members of the IIS by making a fixed deposit of Rs. 700 (16 US$); interest on this is used to pay the annual premium and the deposit is returned to the woman when she turns 58. Exempted from coverage under the Medical Insurance Fund are certain chronic diseases (for example, chronic tuberculosis, certain cancers, diabetes, hypertension, piles) and disease caused by addiction. Those who are not members of the IIS are strictly excluded from its benefits.

Annual members pay their premium in cash. Voluntary lifetime members usually pay their membership fee in cash, but they may occasionally pay by a check from their SEWA Bank account. Women who take a loan of more than Rs. 10,000 from SEWA Bank are automatically enrolled in the IIS as lifetime members, and the fixed deposit is deducted directly from their loan.

Annual membership fees are collected only from April 1st to June 30th, and annual

members are eligible for medical insurance starting on July 1st. The lifetime fixed deposit can be paid anytime throughout the year. After paying the fixed deposit, women are eligible for benefits on whichever of the following dates comes first: July 1st, October 1st, January 1st, or April 1st. The number of members cited by SEWA refers to the number who on July 1st, the 1st day of the fiscal year, have paid their annual membership fee or lifetime fixed deposit within the preceding twelve months.

The choice of health care provider is left to the discretion of the SEWA member. Members are eligible for reimbursement whether they use private-for-profit, private-non-profit or public facilities. After discharge from hospital, the Fund member is required to submit the following documents within a three month period: a doctor's certificate stating the reason for hospitalisation and the dates of admission and discharge; doctors' prescriptions and bills for medicines purchased; and, reports of laboratory tests done during the hospital stay. After submission of these documents, the member is usually visited by a SEWA employee who verifies the authenticity of the claim. All documentation is reviewed by a consultant physician, and a final decision on the claim is then made by an insurance panel. Finally, the Fund member is notified of the panel's decision, and when applicable, is paid by check.

SEWA directly provides limited preventive and curative services through 95 health centers (open to SEWA members and non-members). In some instances, the health workers at these centers may refer women on to higher levels of health care, and they may even accompany women to the nearest hospital. However, the centers do not function as an integrated referral network in that they have no direct contact with the hospitals and they are not intended to prevent women from seeking hospitalisation unnecessarily.

The design and management of the Medical Insurance Fund have evolved considerably since 1992. Initially, the Fund was administered jointly by SEWA and the United India Insurance Company. At that time, coverage included only allopathic, inpatient care, not including gynaecologic illnesses. The maximum

amount of reimbursement was Rs. 1,000. In 1994 SEWA assumed complete control of the medical insurance component. Since then, there have been small, step-wise changes in the premium and the benefits package; these changes seem to have been made largely to satisfy the perceived needs of members rather than based on any actuarial calculations. In 1995, coverage was expanded to include treatment from traditional bone-setters, occupational diseases, obstetric and gynaecologic problems, and in exceptional cases, homeopathic or traditional medical care (still to a maximum of Rs. 1,000). In 1998, the maximum coverage was increased to Rs. 1,200. In July of 1998, administration of the Medical Insurance Fund for Kheda District was decentralised, shifting from Ahmedabad to the district office in Anand.

Throughout the ten districts of Gujarat where it operates, the Medical Insurance Fund had 23,214 members in 1999-2000. Since the Fund's inception, the premiums paid by annual members plus the interest paid from the fixed deposits of lifetime members have always exceeded medical claim payments. Cost-recovery (excluding administrative costs) varied from 119 to 309 percent (Table 4.4). It is very difficult to estimate the costs of administering the Medical Insurance Fund; data on administrative costs are poorly recorded and many of the administrative functions are shared with the life and asset insurance components as well as with other activities of SEWA. A recent study by the International Labour Office (ILO 2000) found that basic administration costs accounted for 10.2 to 22.9 percent of IIS expenses annually. Interest from a German Technical Cooperation grant (Rs. 100 million given in 1993) is used to cover all administrative costs and to provide the maternity benefit of Rs. 300.

Table 4.4: Ratio of premiums to claims under SEWA's Medical Insurance Fund

	1994	1995	1996	1997	1998	1999	Avg. 6 yrs
Premiums (Rs. '000)	150	384	450	600	780	696	
Claims (Rs. '000)	125	124	259	266	393	387	
Cost recovery ratio (%)	119	309	174	225	199	180	201

Source: ILO 2001, p. 77; data not available for 1992-94.

Table 4.5 summarises the context, design and management of the two schemes.

It should be noted that "TF" and "TF's hospital referral scheme" are used quite interchangeably throughout the thesis. This is largely because membership in TF implies membership in the hospital referral scheme. However, this study did not cover any of TF's many activities outside of the hospital referral scheme. With the SEWA scheme, on the other hand, "Fund" (or Medical Insurance Fund) and "IIS" (or Integrated Insurance Scheme) are used somewhat interchangeably, as the Fund is a component of the IIS, and all members of the IIS are automatically covered by the Fund. However, SEWA (or SEWA Union) is a broader organisation, and while all members of the IIS must belong to SEWA, the reverse is not true (i.e. women may choose to join SEWA Union without joining the IIS). This research looked only at the Fund (or IIS functions directly related to it). It does not assess other activities under the IIS or SEWA Union.

Table 4.5: Description of context, design and management, TF's hospital referral scheme and SEWA's Fund

Variable	TF's hospital referral scheme	SEWA's Medical Insurance Fund
Scheme context:		
Social capital -- networks, norms, and social trust that facilitate coordination and cooperation	Members have in common that they are milk producers; outside the dairy co-operative movement (the "White Revolution") limited history of collaboration	SEWA members are homogenous in terms of occupation. Have a history of working together, successfully, on other projects (e.g. banking, credit, crèche, income-generation, etc.)
Economic context:		
• Economic condition of target population	Members are most often associated with the milk societies and own milch animals, as such they are not the poorest in the community	Largely poor women, but who do have access to banking and credit facilities
• Competitiveness of health insurance and health care markets	Many hospitals (government, private, and private-non-profit), but very few health insurance schemes (the government schemes offered through GIC)	Same
Political context:	No government involvement/commitment to help make the NGO/CBHI sector more effective	Same
Health sector:		
• Structure and performance of the health care system	A top- (hospital-) heavy, multi-tier structure, that is predominantly private. Considerable problems with quality, efficiency, equity (see Chapter 2)	Same
• User fees charged for health services	Almost always; even at public facilities, patients end up paying for medicines, or making under-the-table payments	Same
Aspects of scheme design		
Year of commencement	1980	1992
Target population	All households in 644 of Kheda District's villages.	Members of SEWA Union in Gujarat State (147,618 in 1999/2000)
Population coverage	166,650 households (1999-2000) (coverage estimated by Dave (1993) was 1/5 to 1/6 of households)	23,214 individuals (1999-2000)
Unit of membership	Household	Individual
Restrictions to membership	None	Female, 18 to 58 years of age; must be a member of the larger SEWA Union (membership fee Rs. 5)
Premium	Rs. 10/Hh/year	Rs. 72.5/woman/year

Time of premium payment	Collected once a year at the time milk bonus payments are distributed (as well, milk-society members and non-members can enroll at any time of year)	Annual membership fee payable from April 1st to June 30th, lifetime fixed deposit payable at any time throughout the year
Benefits package	Hospital coverage only, but may have been perceived to include preventive and primary care through the VHW	Life, medical and assets insurance
Health care benefits	Generally a 50% discount on total hospital bill, but varied according to level of need	Up to Rs. 1,200/year in case of hospitalisation
Eligible facilities	Shri Krishna Hospital only	Any (should be registered with municipal authorities)
Exclusions from coverage	None (although wealthier members expected to pay more)	Certain chronic diseases and disease caused by addiction
Process of reimbursement	At the time of discharge from hospital, discount subtracted from total bill	After hospitalization, woman submits claim directly to SEWA and then awaits reimbursement
Method of reimbursement	Not applicable	Paid by check
External funding	Kaira Can covers member hospitalizations to 500,000, with the rest "debt" to Shri Krishna Hospital	GTZ covers administrative costs only
Health care services outside of "insurance" scheme	Preventive and primary care delivered through VHWs and health centers; non-members had same entitlements to these community services	Community health workers in some villages, provide care to all SEWA members (not just IIS members), activities are limited in Kheda District
Aspects of scheme management		
Nature of relationship with provider	TF and Shri Krishna are sister institutions (same Chair-person).	None
Role of government	None	Administered jointly by UIIC until 1994
Community involvement (in scheme design and management)	Limited	Feedback given at (annual and other) meetings used to improve scheme's design
Role of health care provider	Complex, due to overlap in management	None

DATA COLLECTION, ENTRY AND ANALYSIS

Three different methodologies were used in this study: a cross-sectional household survey; analysis of scheme utilisation data; and focus-group discussions and in-depth interviews. These three methodologies correspond to three results chapters for TF and SEWA-IIS each (Figure 4.2). The household survey and analysis of scheme utilisation data primarily address Objectives 1 to 3, while the qualitative methodologies are used to address Objectives 1 through 5, with an emphasis on Objectives 4 and 5.

In order to address the study objectives outlined above, more specific questions were developed that could be addressed using the three different methodologies. (The specific questions vary slightly between the two schemes, due primarily to differences in the utilisation data.) The cross-sectional household survey addresses Objective 1 to 3 (to evaluate "economic" impact) by assessing the two schemes in terms of their impact on access to inpatient care, protection from the costs of inpatient care, and equity. More specifically, it looks at:

- Does the scheme increase access to inpatient care?
- Does the scheme decrease total expenditures (net of discount or reimbursement) per episode of hospitalisation among its members?
- What are the determinants of membership in the scheme, and is wealth one of them?

Scheme utilisation data are similarly used to address Objective 1 to 3. Using these data, scheme impact is assessed primarily in terms of protection from the costs of inpatient care; however, a variety of other questions (related to access to care and equity) are also addressed:

- To what extent do the schemes provided financial protection (from hospital expenditures) among those who use them?
- Relative to the overall frequency of hospitalisation, how likely are members to make use of the schemes?
- Are there differences in the degree of financial protection, or the rate of

utilisation, by social or demographic variables (like age, gender or place of residence)?

The qualitative interviews are used to address Objectives 1 through 5, including the impact of the schemes (both economic and social), and the factors (again, both economic and social) that underlie their impact. The more specific questions addressed are:

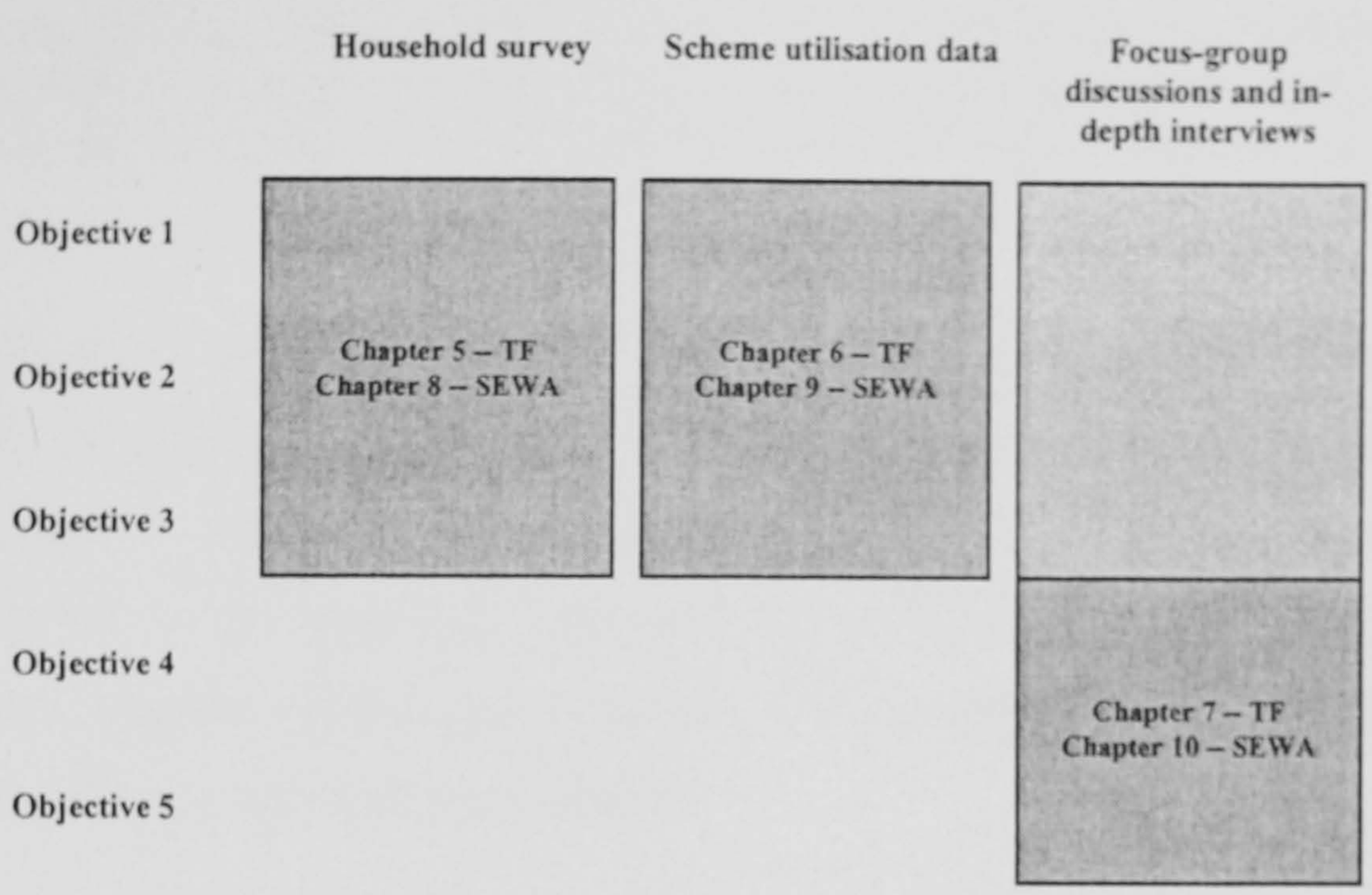
- Why do people participate in the schemes? What are their expectations?
- What has been the experience among those who have used the schemes?

A more detailed and specific set of questions (described below) were used to explore these issues.

There are no standardised or accepted tools for detecting or measuring social consequences or social capital. The exploratory and open-ended nature of qualitative modes of inquiry make them more appropriate than quantitative methods for investigating these phenomena. No quantitative measures of social consequences or social capital were included in the household survey.

The Principal Investigator (MKR) took primary responsibility for all aspects of the study, and was present in the field for the full duration of data collection and data entry. One Senior Research Assistant (RA) was employed for the full duration of the fieldwork. Trained and supervised by the PI, the Senior RA did much of the qualitative work (interviewing, translating and transcribing) with the assistance of a Junior RA. Together, the PI and Senior RA hired and trained seven interviewers for the household survey, and supervised their work during the three months of survey administration. With direct supervision from the PI, Junior RAs were responsible for random sampling for the household survey, and entry of data from the household survey and from insurance claims and hospital bills into computers.

Figure 4.2: Objectives, methods and results chapters



Cross-sectional household survey

This study was designed with the primary objective of assessing the impact of the two schemes in terms of: (1) population reach, particularly inclusion of the poor; (2) hospital utilisation during the one-year period preceding the survey; and (3) annual cost of hospitalisations, conditional on reporting one or more hospitalisations.

The survey instrument was designed based on other health care utilisation and expenditure surveys, from India and elsewhere (Gumber and Kulkarni 2000; Duggal and Amin 1989; Mills 1989). The first round of qualitative work (in-depth interviews and focus-group discussions) fed into the questionnaire by helping to refine questions around: (1) patterns of treatment seeking; (2) different means of coping with the costs of health care; (3) use of traditional Indian systems of medicine; and (4) strengths and weaknesses of TF and SEWA-IIS. Little

information was collected on household income and consumption expenditures. It was decided that collecting such data would be too time-consuming, and the validity of such data (income in particular) is generally low:

> *Self reported measures of total income are unlikely to be reliable, because, quite apart from an understandable reluctance to reveal such information to a stranger, the myriad transactions undertaken by such self employed people make it unlikely that respondents know this datum (Morris, et al. 2000).*

Rather, detailed information was collected on household assets, quality of the place of residence, and ownership of building and land other than the place of residence. These were used to construct an economic status index (ESI) which was used as a proxy for wealth in the analyses. Appendix 1 provides the Household Interview Questionnaire, Gujarati version and Appendix 2 the English version. Appendix 3 describes the ESI and evaluates its reliability.

Seven female interviewers were hired to conduct the household survey. Most were educated to the level of Masters degree, and all spoke Gujarati as their first language (only two spoke some English). The interviewers received almost two weeks of training by the PI and Senior RA prior to commencement of the survey. During this time, they were introduced to the study, and to basic interviewing techniques. As practice, interviewers first administered the questionnaire to one another in the classroom, and then to a small sample of women in a single village (initially in front of the whole group, then in pairs or under the supervision of the PI and Senior RA, and finally independently). Each interviewer piloted the questionnaire at a minimum of five households. Piloted questionnaires were checked for mistakes, and the interviewers provided comments on their initial experiences with the survey tool. The survey tool was substantially revised based on the experiences during piloting. Furthermore, the piloted (but not the final) questionnaire was back-translated into English by Masters in English students at Sardar Patel University. Very few changes needed to made to the questionnaire on the basis of the back-translation.

This was a cross-sectional cohort study; respondents were interviewed at only one

point in time, and the number of TF, SEWA-IIS and non-insured households were fixed in advance. The cross-sectional approach was selected as it is can be conducted during a relatively short period of time and it is relatively inexpensive. It was felt that the major drawback of the cross-sectional approach - not being able to determine whether the exposure (membership in an insurance scheme) preceded or resulted from the outcome (access to, or expenditure on, hospitalisation) - was not of great importance in this case, and could be addressed using qualitative methodologies. A cohort (rather than a case-control) design was selected as it was assumed that the outcome of interest (hospitalisation and use of the insurance schemes) would be relatively common in the study population (further discussed below).

At the design stage, households were stratified based on type of village: (i) villages where TF was operating alone, (ii) villages where SEWA-IIS was operating alone, and (iii) "joint" villages where SEWA-IIS and TF were both working. Based on these three cohorts and three strata, there were seven different types of household (Table 4.6).

Table 4.6: Seven types of households included in the survey

Cohorts	Strata 1: TF Villages	Strata 2: SEWA-IIS Villages	Strata 3: Joint Villages
TF Households	Type 1	NA	Type 5
SEWA-IIS Households	NA	Type 3	Type 6
Non-insured Households	Type 2	Type 4	Type 7

The primary objective was to make comparisons between individuals in households belonging to TF (Type 1 and Type 5) and individuals in non-member households in the same villages (Type 2 and Type 7) and between insured women in SEWA households (Type 3 and Type 6) and non-insured women of the same age range (18 to 58 years) in non-insured households in the same villages (Type 4 and Type 7).

For each scheme, the sample size was calculated based on the assumed impact of enrolment in an insurance scheme on the prevalence of substituting (over a one year

period) for expenditures on food, agricultural development and education in order to pay for medical care. The following values were entered into the *Epi Info 6* sample size calculator: 95% confidence level; 80% power; 20% prevalence of self-reported substitution amongst non-insured households; and 10% prevalence of self-reported substitution amongst insured households. Based on these figures, a sample size of 438 households was recommended (219 enrolled and 219 non-enrolled). However, given the potential inaccuracy of the underlying assumptions, and the possibility that as many as 10% of households would be unwilling/unable to participate, it was decided that 500 households would be interviewed for each of SEWA and TF (250 enrolled and 250 non-enrolled).

Two-stage, random cluster sampling was used. Cluster sampling, "the process of taking a random sample of natural groupings", is particularly useful "when the population is widely dispersed and it is impractical or costly to list and sample from all of its elements", which certainly applied in this study (Hulley, et al. 1988, p. 24). Ten villages were selected for each of the three strata. Villages were selected randomly (using random-number tables); the probability of selection was equal for all villages regardless of size. The secondary sampling units were households. Within each village, insured were randomly selected from lists compiled by the two insurance schemes and non-insured were randomly selected from census or voting lists, again using random-number tables. In each of the TF and SEWA-IIS Villages, 14 insured households and 14 non-insured households were sampled (20 villages x 28 households = 560 households). In the "joint villages", 14 TF households, 14 SEWA households, and 28 non-insured households were sampled (10 villages x 56 households = 560 households). Thus, the total sample size was 1,120.

The household questionnaire was administered between 14 February 2000 and 6 May 2000. Interviewers were divided into two teams of three. The remaining interviewer directed the activities of one team, and checked all of their questionnaires as they were returned, while the Senior RA supervised the work of the other team. The PI checked all questionnaires, usually within 24 hours after their

completion. One hundred households were randomly sampled to be interviewed a second time to check the reliability of the survey instrument. The re-interviews were usually conducted within 24 hours of the first interview, and were always conducted by a different interviewer.

Data were double-entered into a Microsoft Access Database. Analysis was conducted using Stata. Special statistical tools (the "svy function" in Stata) have been used to correct for clustering and stratification. This means that all measures of central tendency, association and variance have been weighted/adjusted to account for the different probability of a household being selected in each of the primary sampling units. The inflation factors (shown in Appendix 4) were used for weighting in the statistical analyses. These weights indicate the relative number of households in the entire study population (i.e. all villages in Kheda District where either the TF scheme, the SEWA-IIS scheme or both were functioning) represented by each household that was actually sampled. Appendix 4 lists the surveyed villages, along with the inflation factors used.

Logistic and log-linear regression models were used (detailed descriptions are provided in Chapters 5 and 8). The survey estimators are based on maximum likelihood estimation. Adjusted Wald tests are presented for all models; this is equivalent to the F-test of the significance of the regression. A p-value of 5% or less was used as criterion for significant association. The Ramsey RESET test for omitted variable bias and functional form is presented for all regressions; a p-value of 5% or less indicates bias or inefficiency.

Review of scheme utilisation data

The types of scheme utilisation data available for TF and SEWA were quite different. For TF's hospital referral scheme, bills submitted to TF by the Shri Krishna Hospital were available for the fiscal years 1996/97 to 1999/00 (each fiscal year is from 1st April through 31st March). These bills were used to assess the scheme in terms of: (1) protection of beneficiaries from hospital costs and (2)

frequency of use of the referral services. The data available from claims were as follows: the number of bills submitted per annum; gender and taluka of residence for each person hospitalised; whether the patient was admitted to the Nutritional Resource Centre (NRC) or the "adult wards"; total cost of the hospitalisation (no cost break-down was provided); whether a discount was provided, and if so, in what amount. All data from bills had already been entered into a computer (Dbase) by staff from TF.

For SEWA, claims submitted to the Medical Insurance Fund between July 1st, 1994 through June 30th, 2000 were available. Using these data, the scheme was assessed in terms of: (1) protection of claimants from the costs of hospitalisation; (2) lag time between discharge from hospital and reimbursement; (3) frequency of use of the insurance scheme; and (4) annual household income of claimants compared to income in the general population. The data available from claims were as follows: self-reported, annual household income; total costs of hospitalisation (for which bills were available); date of discharge from hospital, date on which receipts and certificates were submitted, date of the insurance panel's decision; whether the claimant was reimbursed, and if so, when and in what amount. Claims were entered into a Microsoft Access database by two Junior RAs (single data entry only).

In Chapters 6 and 9, additional information is provided about the calculations that were performed, and external sources of data that were used in the analyses.

Focus-group discussions and in-depth interviews

In-depth interviews and focus-group discussions were used to address Objectives 1 through 5. Firstly, focus-group discussions with beneficiaries and in-depth interviews with health care providers and scheme administrators were conducted (10/99 through 12/99). Later, in-depth interviews with beneficiaries, health care providers, scheme administrators, and an external donor were performed (07/00 to 09/00). Earlier and later interviews addressed the same topics; guidelines for the interviews can be found in Appendix 5.

All sampling was purposive. In the first phase, six FGDs (3 per scheme) and six in-depth interviews (one administrator, one provider, and one government representative per scheme) were planned. In the second phase 54 to 56 in-depth interviews were planned, comprised of two or three providers and twenty-five enrolled members, per scheme.

"Maximum variation" was the strategy in sampling for the focus-group discussions, as the purpose was to document diverse variations and identify important common patterns (Miles and Huberman 1994, p. 28). An attempt was made to assemble groups that were fairly diverse in terms of age, place of residence, gender and socio-economic status. Villages were first identified where both TF and SEWA-IIS had members, and then one village near Anand (where the district headquarters of both schemes are located, along with the densest cluster of hospitals in the district) and one village distant from Anand were selected. Focus-groups were either entirely female (five) or entirely male (two) - males and females were not interviewed together, as it was felt that females were unlikely to voice their opinions with men from the same community present. A roughly equal number of people from insured and non-insured households were invited to the focus-group discussions. Three of the female focus-groups included insured from only one of the schemes, and two included insured from both schemes. Both of the male focus-groups included insured from both schemes (or for the SEWA scheme, the husbands of the insured). TF village health workers and SEWA village leaders identified the insured members (generally living within the village, rather than on more distant farms) and the non-insured were typically neighbours of the insured. Participants were not reimbursed for their time, but were provided with tea and snacks.

Interviews with scheme administrators and health care providers were conducted during both phases of qualitative work. The strategy in sampling was "stratified purposeful"; people from different subgroups were selected (for example, village-level scheme representatives, their supervisors, district-level administrators, etc.) so

as to facilitate comparisons (Miles and Huberman 1994, p. 28). For both TF and SEWA-IIS, an attempt was made to include administrators at the top of the administrative hierarchy (e.g. founders, chairmen) through to the bottom (e.g. village level representatives). For SEWA, providers were selected from amongst the physicians (allopathic and traditional) whose names appeared on members' insurance claims, and for TF from amongst village-level health care workers and doctors at TF sub-centres.

Government representatives at the district level (the District Medical Officer) and at the central level (the Joint Minister of Health) were approached for interview. Only one external donor was interviewed, associated with the SEWA scheme.

In the second phase of the qualitative work, in-depth interviewees were selected from amongst the respondents to the quantitative household survey. An attempt was made to include roughly equal numbers of TF members, SEWA insured and non-insured respondents. Within these three groups, respondents whose households had experienced at least one hospitalisation within the last year were over-sampled. Furthermore, among TF and SEWA-IIS respondents who had experienced a hospitalisation, some respondents who had used the CBHI scheme and some who had not were included.

The focus groups were generally attended by the PI, chaired by one research assistant (RA) and recorded (with video tape, audio tape, and notes) by a second RA. All interviews were conducted by one RA and recorded (audio tape and notes) by a second RA. Interviews were recorded with the permission of participants. The full interviews - most of them conducted in Gujarati - were translated into English, transcribed (hand-written) and then typed in Microsoft Word.

The data from the interviews/discussions were coded by the Principal Investigator using N-Vivo software. The unit of analysis was defined as a sentence or multi-sentence chunk and assigned the single most appropriate code. All coding was

performed following, rather than in parallel with, the data collection. Coding and analysis of the data was performed using a "grounded" approach wherein codes were generated to represent the main themes found in the data (Miles and Huberman 1994). In the discussion the results are related to the more analytical objectives that underlie the research.

Investigating social consequences and contextual factors

During both phases of the qualitative research, interviewers collected information from participants around the rather abstract concepts of social consequences of health insurance, and social capital as a determinant of the success of CBHI. There are no standardised or accepted tools for detecting or measuring social consequences or social capital. For the purposes of this study, these abstract concepts were broken down into more concrete components, and these components were used as the basis of discussions with scheme participants.

To the knowledge of this author, no empirical work in a developing country has looked into the social implications of a health insurance scheme. Empirical work in developed countries appears to be limited to research into the impact of health insurance on the Labor market (for example, see Monthly Labor Review 1998 and Sapolsky 1981). The literature reviewed (see Chapter 3) suggested that the following potential consequences should be investigated:

- Conflict in families, and between patient and provider, around medical decision-making;
- Community involvement in medical decision-making;
- The status of allopathic and traditional systems of medicine;
- Access to medical care among the elderly and other disadvantaged socio-economic groups (and conflict between socio-economic groups related to access to health care);
- Impact of health insurance on the Labor market;
- Satisfaction or well-being related to the ability to 'give gifts';
- The nature and prevalence of risky behaviour.

Past attempts to measure social capital have also broken it down into its component parts, and tried to measure such things as trust, civic co-operation and participation in civic organisations (Knack and Keefer 1997). Difficulties arise in measuring these inherently ambiguous factors. Further, combining the measures from these various domains (so as to derive a social capital index) may not be valid; it is held by some that social capital may be greater that the sum of its component parts. Examples of attempts to detect or measure social capital include the following:

- Putnam (1993a) used a composite index of newspaper readership, the density of sports and cultural associations, turnout in referenda, and the incidence of preference voting;
- Knack and Keefer (1997) included as separate variables: self-reported trust in others, acceptability of various corrupt behaviours (e.g. cheating on taxes if you have the chance), and participation in a variety of types of organisations;
- Castle (personal communication) in her study of women in Mali explored advice networks, and sources of practical, economic and emotional support;
- Lochner, et al. (1999) described tools for collecting data on four (substantially overlapping) domains: collective efficacy (i.e. trust, norms of reciprocity and likelihood of intervening when the "neighbourhood" is in some way threatened); psychological sense of community; neighbouring and neighbourhood cohesion (social connections that are either personal or at the neighbourhood level); and community competence (problem solving ability of a community that arises through collective effort).

In this study, an attempt was made to collect information around the following components of social capital, which were felt to be particularly relevant to health insurance:

- social consciousness or solidarity, loyalty to society;
- traditions of collaboration and co-operation;
- the exchange of information;
- social proximity and trust;

- strength of norms and sanctions.

While these categories are neither mutually exclusive, nor all-inclusive, they provided a sufficiently simple framework to guide the data collection.

CRITERIA FOR ASSESSING QUALITY OF CASE-STUDY RESEARCH

Qualitative and quantitative studies, despite being very different in terms of methods of data collection, analysis and presentation, can be assessed using similar standards of quality:

> *As in quantitative research, the basic strategy to ensure rigour, and thus quality, in qualitative research is systematic, self conscious research design, data collection, interpretation, and communication (Mays and Pope 2000).*

Advocates of the "antirealist position" argue that there are multiple perspectives of the world that are created and constructed in the research process. As such, qualitative research represents a distinctive paradigm and it should not be judged by conventional measures of validity, generalizability, and reliability (Mays and Pope 2000). Others believe that there is an underlying reality that can be studied, and that qualitative research should attempt to represent that reality:

> *Our view is that qualitative studies take place in a real social world, and can have real consequences in people's lives; that there is a reasonable view of "what happened" in any particular situation (including what was believed, interpreted, etc.); and that we who render accounts of it can do so well or poorly, and should not consider our work unjudgable (Miles and Huberman, p. 277).*

According to this position, it is possible to assess qualitative and quantitative research using the same criteria.

In this study, the evaluation framework described in Table 4.7 was used to assess both the quantitative and qualitative components. The five domains are defined as follows (Miles and Huberman, p. 277-80):

1/ Objectivity/Confirmability. Do the conclusions depend on the subjects and conditions of the inquiry rather than on the inquirer?

2/ Reliability/Dependability/Auditability. Was the process of the study

consistent, reasonably stable over time and across research methods? Have things been done with reasonable care?

3/ Internal Validity/Credibility/Authenticity. Do the findings provide an authentic portrait of the phenomenon under observation?

4/ External Validity/Transferability/Fittingness. How far can the conclusions be generalised?

5/ Utilisation/Application/Action Orientation: Does the study have the potential to lead to more intelligent action?

Table 4.7: Criteria for assessing quality in quantitative and qualitative research

Broad domains	Quantitative	Qualitative
Objectivity/Conformability	• Was there any systematic difference in the soliciting, recording or interpreting of information from study participants (i.e. was there interviewer bias)?	• Use of reflexivity - "an attitude of attending systematically to the context of knowledge construction, especially to the effect of the researcher, at every step of the research process (Malterud, p. 483). • Are the study's general methods and procedures described explicitly and in detail? • Has the researcher been explicit and as self-aware as possible about personal assumptions, values and biases, affective states? • Were competing hypotheses or rival conclusions really considered?
Reliability/Dependability/ Auditability	• Do field-workers have comparable data collection protocols? • Were data quality checks made? • Were any forms of peer or colleague review in place?	• Same as for quantitative.
Internal Validity/Credibility/ Authenticity	• In quantitative research, this relates the role of chance, bias and confounding (Hennekens 1987). • Was sampling random and was the sample size sufficient given the hypothesis? • Were subjects accurately classified with respect to their exposure and outcome status? • Were efforts made to minimise recall bias? • Were rates of non-participation minimized? • Were confounding variables taken into consideration and controlled for?	• Does the account ring true, make sense, seem convincing or plausible? • Did triangulation among complementary methods and data sources produce generally converging conclusions? • Was negative evidence sought for? • Have rival explanations been actively considered? • Were the conclusions considered to be accurate by original informants?
External Validity/ Transferability/ Fittingness	• How much is know about the characteristics of the sampled population? • To what extent does the sampled population resemble some wider population of interest?	• Are the findings congruent with, connected to, or confirmatory of prior theory? • Is the transferable theory from the study made explicit?
Utilization/Application/Action	• Are the findings useful? Do they raise consciousness, develop insight, guide action, direct policy, etc.?	• Same as for quantitative.

Source: Loosely adapted from Miles and Huberman, p. 277-8

SECTION 2: TRIBHUVANDAS FOUNDATIONS'S HOSPITAL REFERRAL SCHEME

CHAPTER 5: IMPACT ON HOSPITAL UTILISATION AND EXPENDITURE: RESULTS OF A HOUSEHOLD SURVEY

SUMMARY

This chapter assesses the impact of Tribhuvandas Foundation's referral scheme to Shri Krishna Hospital, in terms of inclusion of the poor, hospital utilisation and expenditure. Individuals in member and non-member households were compared using the survey data (2000). Wealth, proxied by quintiles of the assets index (the ESI), was not significantly associated with membership in TF, although there was a trend towards higher levels of membership among wealthier quintiles. Of 77 hospitalisations among TF members over one year, only 7 were taken at private-non-profit hospitals, including Shri Krishna Hospital. TF membership was associated with significantly lower probability of having been hospitalised. TF membership was not associated with hospital expenditures, net of discount. Failure of TF's hospital referral scheme to impact on hospital utilisation and expenditure was most likely due to very low rates of utilisation of the referral scheme. Low rates of utilisation may have been due to several factors: lack of information among beneficiaries about the referral services; inaccessibility of the hospital (for example, because it is too far or too expensive); preference among members for other inpatient services; or TF may have discouraged use of Shri Krishna Hospital by its members, given the mounting financial imbalances.

INTRODUCTION

The purpose of this chapter is to assess the "economic impact" of TF's hospital referral scheme, thus addressing Objectives 1 to 3. The data for this analysis were collected from households in Kheda District using the interview-administered questionnaire. Impact is assessed in terms of: (1) population reach of the TF, particularly inclusion of the poor (addresses Objective 3); (2) hospital utilisation during the one-year period preceding the survey (Objective 1); and (3) annual cost of hospitalisations, conditional on reporting one or more hospitalisations (Objective 2).

The underlying hypotheses are that TF's hospital referral scheme will:

1/ Exclude the poor and include members of higher socio-economic status. Many of TF's activities, including enrolment in the membership scheme, are conducted through village Dairy Cooperative Societies. Thus, households that are not able to afford at least one cow or buffalo may never learn about TF and its activities, or may fail to enrol.

2/ TF members are generally entitled to a 50% discount in case of hospitalisation at Shri Krishna Hospital. Due to the removal to some component of the financial barrier to hospitalisation, TF members are expected to have a higher frequency of hospitalisation than controls.

3/ Decrease the total annual hospital costs per person hospitalised. This assumes that among TF members, some hospitalisations will have been taken at Shri Krishna Hospital, and some will actually have received discount at the time of discharge from Shri Krishna.

METHODOLOGY

Data collection and analysis

A cross-sectional cohort study design was selected; respondents were interviewed at only one point in time, and the number of TF and non-member households (the two "cohorts") were fixed in advance. Two-stage, random cluster sampling was used. The primary sampling units (PSUs) were villages. Twenty villages were selected randomly (using random-number tables); the probability of selection was equal for all villages regardless of size. The secondary sampling units were households. Within each village, insured were randomly selected from lists compiled by TF and non-members were randomly selected from census or voting lists. In ten villages, 14 TF households and 14 non-member households were sampled, and in ten villages 14 TF households and 28 non-member households were sampled (20 villages x 14 TF

households = 280 TF households. 10 villages x 14 controls - 10 villages x 28 controls = 420 controls, therefore *700 households* are included in this analysis).[1]

See Chapter 4 for a description of data entry, cleaning and analysis.

Models

(1) What was the population reach of TF?

The model for looking at socio-demographic determinants of membership is a *logit model*, written as follows:

$$\ln(p/(1-p)) = X\beta + \varepsilon \qquad \textbf{(Equation 1)}$$

where p is the probability of being a member of TF and X represents a set of independent variables that are hypothesised to affect membership in community based schemes.

(2) Did TF's hospital referral scheme impact on hospital utilisation over the last one year?

The model is again a *logit model*. It estimates the probability of an individual being hospitalised during the one-year period preceding the interview, and can be written as follows:

$$\ln(p/(1-p)) = X\beta + \varepsilon \qquad \textbf{(Equation 2)}$$

where p is the probability of hospitalisation and X represents a set of independent variables that are hypothesised to affect individual patterns of hospital utilisation.

---

[1] The latter villages, in which there were twice as many control households (28) as TF households (14) were the ten joint villages. In these villages, 14 TF households, 14 SEWA-HS households (which are not included in this analysis) and 28 non-insured "control" households were interviewed.

(3) Did TF's hospital referral scheme impact on net annual hospital costs per person hospitalised?

The model is a log-linear model that estimates the net costs incurred for all hospitalisations (over one year), conditioned on positive hospitalisation. Costs were net of reimbursement by insurance schemes, including TF's. The model can be written:

$$\ln Y = X\beta + \varepsilon \qquad \textbf{(Equation 3)}$$

where Y is the net annual hospital costs per person and one or more hospitalisation over one year, and X represents a set of independent variables that are hypothesised to affect individual patterns of hospital expenditure.

Equations 2 and 3 are equivalent to the "two-part" (utilisation and expenditure) model developed as part of the Rand Health Insurance Experiment (Duan, et al. 1982, Manning, et al. 1987), and used more recently by Yip and Berman (2001) in their study of the impact of Egypt's School Health Insurance Programme.

Independent variables

Table 5.1 describes the independent variables included in the analyses. Included were a number of household-level demand side factors. For models 2 and 3, individuals were classified as belonging to TF-member or non-member households. Independent of insurance, wealth was hypothesised to be positively associated with rates of hospitalisation and with net costs of hospitalisation. As a proxy for wealth, the economic status index (ESI) was constructed based on household assets, allowing the weights of these assets to be determined by the statistical procedure of principal components (see Appendix 3). The other household-level variables controlled for were religion, caste and number of people living in the household.

A number of individual-level, demand side variables were controlled for. All models controlled for age, literacy, marital status, and primary occupation and number of acute illnesses reported during the last 30 days (as a proxy for general level of health). All of these variables were anticipated to influence demand for health care (need, access and ability to pay) and choice of provider, and for this reason were included as potential confounders.

In model 3 only, characteristics of the hospitalisation were controlled for. Use of private-for-profit and private-non-profit hospitals (generally perceived to be of higher quality) was hypothesised to be associated with higher net costs of hospitalisation than use of government facilities. Individuals who reported longer episodes of hospitalisation were expected to have experienced higher net costs. Finally, cause of hospitalisation was included as it was anticipated that women hospitalised for pregnancy, delivery and family planning would generally have experienced an uncomplicated hospitalisation without major surgical procedures.

Table 5.1: Independent variables included in the regression analyses

Variables	Model 1	2	3
Characteristics of the household			
TF = 1 if household paid TF membership fee for the current year, 0 if not		✓	✓
ESI1 to ESI5 = quintiles of economic status index (these variables are exhaustive, ESI1 is left out of the models)	✓	✓	✓
HINDU = 1 if Hindu religion, 0 if Muslim or Christian	✓	✓	✓
BKWDCASTE = 1 if scheduled caste, scheduled tribe and other 'backward castes', 0 if castes that have *not* been identified by government as 'backward' (Bhakshipanch, Brahmin, Patel, Shah, etc.)	✓	✓	✓
HHSIZE1 = 1 if 1 to 2 people in HH HHSIZE2 = 1 if 3 to 4 people in HH HHSIZE3 = 1 if 5 to 9 people in HH HHSIZE4 = 1 if >=10 people in HH (these variables are exhaustive, HHSIZE1 is left out of the models)	✓	✓	✓
Characteristics of the individual			
FEMGEND = 1 if female, 0 if male	✓	✓	✓
AGE1 = 1 if 0 to 4 years of age AGE2 = 1 if 5 to 9 years of age AGE3 = 1 if 10 to 19 years of age AGE4 = 1 if 20 to 29 years of age AGE5 = 1 if 30 to 39 years of age AGE6 = 1 if 40 to 49 years of age AGE7 = 1 if 50 to 59 years of age AGE8 = 1 if >60 years of age (these variables are exhaustive, AGE1 is left out of the models)	✓	✓	✓
LITERATE = 1 if person can read and write a simple letter, 0 if not	✓	✓	✓
MARRIED = 1 if married, 0 if never married, widower, divorced, separated, or other	✓	✓	✓
FARMER = 1 if primary occupation is farmer (including dairy farmer) DAILYWAGE = 1 if unskilled worker being paid daily wage (agricultural or factory worker) DOMESTIC = 1 if primary occupation is domestic work/housework NOT-ABLE = Not able to work (e.g. elderly, child, mentally or physically disabled) OTHERWORK = 1 if other than farmer, dailywage, domestic or "not able" (these variables are exhaustive, OTHERWORK is left out of the models)	✓	✓	✓
NUMBACUTE = number of acute illness episodes reported during the last 30 days (ranged from 0 to 3)	✓	✓	✓
Characteristics of the hospitalisation			
PUBLIC = 1 if government or ESIS hospital PRIVATE = 1 if private for-profit hospital NONPROF = 1 if private-non-profit (these variables are exhaustive, PUBLIC is left out of the models)			✓
SHORT = 1 if 0 to 3 days hospitalised MEDIUM = 1 if 4 to 7 days hospitalised LONG = 1 if >7 days hospitalised (these variables are exhaustive, SHORT is left out of the models)			✓
OBS/GYN = 1 if cause of hospitalisation was pregnancy, delivery or family planning, 0 if other			✓

The analyses in this chapter were carried out at the individual-level rather than at the

household-level, despite the fact that membership in TF is by household. The individual-level of analysis was selected for several reasons. Firstly, it was easier and more intuitive to interpolate to the individual level from household-level variables than the reverse. For example, if a household was Hindu, it seemed reasonable to assume that everyone within the household was Hindu. In contrast, if half of the individuals in a household were literate, designating the household 50% literate (basically making the assumption that illiteracy among some impacts on utilisation and cost of health care to all household members) seemed less intuitive. Secondly, the statistical power of the study (i.e. the ability of the study to detect differences that do, in reality, exist) was higher for the individual-level analysis due to the larger number of observations. Finally, conducting the analysis at the individual-level made the results more comparable to the results for SEWA (Chapter 8). The main concern around analysing the data at the individual level is that membership in TF may mean different things for different individuals in the household – i.e. access to benefits of the scheme might vary among household members. Aristotle coined the term "the fallacy of division" to describe the problem of assuming that because a group has a certain characteristic the members of that group also have that characteristic (Schwartz 1994). To ensure that the level of analysis was not impacting on the main results, all analyses were replicated at the household-level; the results are presented in Appendix 6. These results are compared with the individual-level analyses in the discussion section.

For each of the three models, three models, three columns of results are presented: (i) the 'full model' includes all of the variables listed above; (ii) the 'best fitting model' based on measures of goodness-of-fit such as Wald's test and R-squared values; and (iii) an 'adults only' model. The adults only model is included because, especially the very young, tend to be illiterate, unmarried and unemployed, resulting in colinearity between age and several of the other variables. The 'adults only' model excludes all individuals younger than 15 years of age.

RESULTS

In total, 1,626 TF members (in 280 households) and 2,137 non-members (in 414 households) were included in the analyses. The demographic data (before controlling for confounding) suggest that TF members were of higher socio-economic status than non-members (Table 5.2). TF members ranked higher on the Economic Status Index, and were more likely to be Hindu. There was little difference in mean household size (although TF members were almost twice as likely to come from the largest category of household, 10 or more members). TF members tended to be younger, more literate, more likely to engaged in farming, and less likely to be engaged in unskilled work for daily wages.

Before controlling for socio-demographic variables, TF members were only 58% as likely as non-members to have been hospitalised (0.037 versus 0.063; Table 5.3). Among those hospitalised, the net annual hospital expenditures for TF members were roughly 60% those of non-members. It was reported that 7 of 77 (9%) hospitalisations among TF members were taken at a private-non-profit hospital (including Shri Krishna) compared with 9 of 135 (7%) hospitalisations among non-members.[2]

[2] In households where one or more hospitalisation had occurred over the previous year, respondents were asked what type of hospital was used, but they were not asked if they used Shri Krishna Hospital, specifically. Thus, the only indicator on the frequency of use of Shri Krishna Hospital is the frequency of use of private-non-profit facilities.

Table 5.2: Sample characteristics

Variable	TF	NON-MEM
Number of households	280	414
Number of individuals	1,626	2,137
Mean ESI	0.65	0.23
Cat: Quintiles of ESI		
% in 1st quintile	15.4	28.2
% in 2nd quintile	26.5	16.1
% in 3nd quintile	14.0	18.9
% in 4nd quintile	23.7	20.3
% in 5nd quintile	20.4	16.5
Religion		
% Hindu	99.2	91.9
% Muslim	0.8	5.0
% Christian	0.0	3.0
% ST, SC, or other "backward" caste	45.2	43.4
Mean number of hh members	6.27	6.14
Cat: Number of hh members		
% 1-2	2.5	5.1
% 3-4	23.4	19.8
% 5-9	60.4	67.5
>% =10	13.7	7.6
% Female	47.5	48.3
Mean age	25.53	29.55
Cat: Age		
% 0-<5	9.5	7.1
% 5-<10	13.1	10.4
% 10-<20	21.5	20.8
% 20-<30	17.5	17.5
% 30-<40	14.0	10.0
% 40-<50	11.5	14.1
% 50-<60	8.2	8.9
% 60+	4.6	11.3
% Literate	58.3	53.9
% Married	54.9	53.8
% Farming	22.5	11.4
% Working for daily wages	8.9	19.2
% Doing domestic work	23.4	22.4
% Not able to work	12.9	15.1
Frequency of illness/person/30 days	0.105	0.092

Table 5.3: Hospital utilization, and expenditure per hospitalization, among TF members and non-members

	TF (n=1,626)		NON-MEM (n=2,137)
Hospital utilisation			
Total hospitalisations reported	77		135
People with >0 hospitalisations, 1 year	72		124
Probability of >= 1 hospitalisation per person	0.037	***	0.063
Mean total hospital costs (per person hospitalised)	3,498	**	5,898
Total private-non-profit hospitalisations	7		9
People who used only private-non-profit hospitals	5		7

US $1 is approximately equal to 44 Rs.

T-tests were performed to compare rates/expenditures of the TF with NON-MEM

* 10% significance level; ** 5% significance level; *** 1% significance level

Regression analyses

Controlling for other socio-demographic variables, only Hindu religion, younger age, and working as a farmer were consistently significantly associated with membership in TF (Table 5.4). Results were very similar for the "full", "best fit", and "adult" models. Overall, wealth, proxied by quintiles of ESI, was not significantly associated with membership in TF (see F-test for the combined ESI variables at the bottom of Table 5.4). There was a trend suggestive of higher levels of membership among all of the wealthier quintiles (2^{nd} through 5^{th}), and individuals belonging to the 2^{nd} and 4^{th} income quintiles were significantly more likely than members of the lowest income quintile to belong to the scheme. Hindus were roughly 10 times as likely to join the scheme as Muslims and Christians. In terms of age, each additional year was associated with a small (roughly 2%) but significant drop in the odds of being a TF member. Farmers were roughly three times as likely to join the scheme as those categorised as OTHERWORK (see Table 5.1).

Table 5.4: Regression results for Equation 1, the odds of being a TF member based on socio-demographic variables: logit model

	Odds ratios (t-statistics)								
	Full Model (n=3,711)			Best fit (n=3,753)			Adults only (n=2,629)		
ESI2	**3.162**	**	ESI2	**3.130**	**		**3.293**	**	
	(2.870)			(2.620)			(2.210)		
ESI3	**1.626**	*	ESI3	**1.474**			**1.607**		
	(1.870)			(1.410)			(1.520)		
ESI4	**2.849**	**	ESI4	**2.466**	**		**2.591**	**	
	(2.610)			(2.390)			(2.180)		
ESI5	**2.842**	*	ESI5	**2.586**	*		**2.523**	*	
	(2.100)			(1.880)			(1.870)		
HINDU	**10.125**	***	HINDU	**9.684**	***		**12.358**	***	
	(3.020)			(3.080)			(3.450)		
BKWDCASTE	**1.407**		BKWDCASTE	-			-		
	(1.370)			-			-		
HHSIZE2	**0.747**		HHSIZE2	-			-		
	(-0.850)			-			-		
HHSIZE3	**1.329**		HHSIZE3	-			-		
	(0.780)			-			-		
FEMALE	**1.036**		FEMALE	-			-		
	(0.330)			-			-		
AGE2	**0.709**		AGE (cont)	**0.982**	***		**0.985**	***	
	(-1.120)			(-4.210)			(-2.970)		
AGE3	**0.464**			-			-		
	(-1.420)			-			-		
AGE4	**0.390**	***		-			-		
	(-3.690)			-			-		
AGE5	**0.533**	*		-			-		
	(-1.760)			-			-		
AGE6	**0.273**	***		-			-		
	(-4.520)			-			-		
AGE7	**0.277**	***		-			-		
	(-3.350)			-			-		
AGE8	**0.154**	***		-			-		
	(-4.570)			-			-		
LITERATE	**1.199**		LITERATE	-			-		
	(0.810)			-			-		
MARRIED	**1.156**		MARRIED	-			-		
	(0.690)			-			-		
FARMER	**2.785**	**	FARMER	**2.870**	**		**3.342**	**	
	(2.260)			(2.920)			(2.620)		
DAILYWAGE	**0.643**		DAILYWAGE	**0.649**			**0.786**		
	(-0.870)			(-1.110)			(-0.490)		
DOMESTIC	**1.323**		DOMESTIC	**1.377**			**1.824**	**	
	(0.950)			(2.180)			(2.350)		
NOT-ABLE	**0.813**		NOT-ABLE	**0.883**			**0.748**		
	(-0.690)			(-1.010)			(-0.690)		
NUMBACUTE	**1.498**	*	NUMBACUTE	-			-		
	(2.030)			-			-		
Adjusted Wald Test, F =	**940**		Adjusted Wald Test, F =	**52**			**10**		
P-value =	**0.026**		P-value =	**0.000**			**0.001**		
Percent of predictions correct =	**58.1%**		Percent of predictions correct =	**59.5%**			**60.8%**		
Ramsey Reset Test, F =	**0.89**		Ramsey Reset Test, F =	**0.83**			**0.43**		
P-value =	**0.466**		P-value =	**0.495**			**0.732**		
F-test for four ESI variables =	**1.8**		F-test for four ESI variables =	**1.7**			**1.4**		
P-value =	**0.178**		P-value =	**0.205**			**0.295**		

* 10% significance level; ** 5% significance level; *** 1% significance level

TF membership was associated with significantly lower probability of having been hospitalised, while Hindu religion and being married were associated with higher probability of hospitalisation (Table 5.5). Again, results were significant for the full, best fitting, and adult models, although the association between religion and TF membership was only of borderline significance in the adult model. TF members were roughly half as likely as non-members to report hospitalisation. Hindus were between four and six times as likely as non-Hindus, and married individuals three times as likely as non-married individuals to have been hospitalised.

After conducting the first round of analyses, it was hypothesised that benefits of the TF referral scheme might be captured by heads of the households, as they are typically the ones who have paid the membership fee, and thus are the household member most likely to know about the benefits of the scheme (see Chapter 7). Thus, the calculations for Model 2 were repeated for household heads only (presented in Appendix 7), with the expectation that rates of hospitalisation among TF household heads might be higher than among non-member household heads. Again, the results were opposite to those expected: household heads belonging to TF were less likely to have been hospitalised over one year in comparison with heads of non-TF households, but this trend was non-significant.

Table 5.5: Regression results for Equation 2, the probability of being hospitalised within the last year: logit model

	Odds ratios (t-statistics)							
	Full Model (n=3,711)				Best fit (n=3,755)		Adults only (n=2,631)	
TF	**0.432**	***	TF		**0.527**	***	**0.584**	**
	(-5.110)				(-3.860)		(-2.800)	
ESI2	**1.045**		ESI2		**1.074**		**1.133**	
	(0.110)				(0.180)		(0.240)	
ESI3	**0.659**		ESI3		**0.597**		**0.564**	
	(-1.360)				(-1.670)		(-1.250)	
ESI4	**1.627**		ESI4		**1.444**		**1.811**	
	(1.340)				(1.340)		(1.480)	
ESI5	**1.926**		ESI5		**1.276**		**1.416**	
	(1.310)				(0.790)		(0.740)	
HINDU	**6.054**	**	HINDU		**3.980**	**	**3.664**	*
	(2.740)				(2.120)		(1.970)	
BKWDCASTE	**1.192**		BKWDCASTE		-		-	
	(1.060)				-		-	
HHSIZE2	**1.858**		HHSIZE2		**1.691**		**1.662**	
	(1.370)				(1.170)		(1.130)	
HHSIZE3	**0.789**		HHSIZE3		**0.794**		**0.743**	
	(-0.530)				(-0.510)		(-0.620)	
FEMALE	**0.287**	*	FEMALE		**0.918**		**1.116**	
	(-2.000)				(-0.380)		(0.430)	
AGE2	**0.853**		AGE (cont)		**1.006**		**1.005**	
	(-0.160)				(0.870)		(0.800)	
AGE3	**0.730**				-		-	
	(-0.690)				-		-	
AGE4	**2.642**				-		-	
	(1.530)				-		-	
AGE5	**1.169**				-		-	
	(0.250)				-		-	
AGE6	**1.218**				-		-	
	(0.330)				-		-	
AGE7	**1.497**				-		-	
	(0.760)				-		-	
AGE8	**0.738**				-		-	
	(-0.510)				-		-	
LITERATE	**0.362**		LITERATE		-		-	
	(-1.640)				-		-	
MARRIED	**2.733**	***	MARRIED		**2.982**	**	**3.283**	*
	(4.470)				(2.870)		(2.020)	
FARMER	**1.261**		FARMER		-		-	
	(0.340)				-		-	
DAILYWAGE	**0.528**		DAILYWAGE		-		-	
	(-1.140)				-		-	
DOMESTIC	**4.460**		DOMESTIC		-		-	
	(1.380)				-		-	
NOT-ABLE	**1.779**		NOT-ABLE		-		-	
	(1.150)				-		-	
NUMBACUTE	**1.429**		NUMBACUTE		**1.178**		**1.175**	
	(1.630)				(0.750)		(0.790)	
Adjusted Wald Test, F =	**46**		Adjusted Wald Test, F =		**203**		**33**	
P-value =	**0.116**		P-value =		**0.000**		**0.000**	
Percent of predictions correct =	**95.2%**		Percent of predictions correct =		**94.9%**		**93.8%**	
Ramsey Reset Test, F =	**0.85**		Ramsey Reset Test, F =		**1.71**		**2.25**	
P-value =	**0.488**		P-value =		**0.204**		**0.121**	

* 10% significance level; ** 5% significance level; *** 1% significance level

Only characteristics of the hospitalisation, namely type of hospital and duration of hospitalisation, were consistently significantly associated with annual hospital expenditures per person hospitalised (Table 5.6). Individuals hospitalised in private facilities spent more than five times what was spent by those using public facilities.[3] Those who were hospitalised for eight or more days spent between 2.7 (adult model) and 3.7 (best fitting model) more than those hospitalised three or fewer days. There was a trend towards higher hospital expenditures among Hindus, although this was only of borderline significance in the adult model. TF membership was not associated with hospital expenditures in any of the models, nor were quintiles of the Economic Status Index.

[3] In the log-linear model, the coefficient β for a continuous independent variable gives the relative change in the mean value of Y for a unit change in X. In order to obtain the relative change in mean Y for a dummy variable, one must take the antilog (to base e) of the estimated dummy coefficient and subtract it from 1 (Gujarati 1995, p. 525).

Table 5.6: Regression results for Equation 3, avg. annual cost of hospital care: log-linear model

	Coefficients (t-statistics)							
	Full Model (n=160)			Best fit (n=160)		Adults only (n=134)	
TF	0.306		TF	0.080		-0.017	
	(1.520)			(0.460)		(-0.110)	
ESI2	-0.177		ESI2	0.040		-0.532	
	(-0.400)			(0.120)		(-1.530)	
ESI3	0.619		ESI3	0.751	*	-0.344	
	(1.300)			(1.740)		(-1.130)	
ESI4	0.630		ESI4	0.977	**	0.449	
	(1.330)			(2.210)		(1.400)	
ESI5	-0.392		ESI5	-0.032		-0.538	*
	(-0.850)			(-0.080)		(-1.400)	
HINDU	2.949	**	HINDU	3.019	**	3.032	*
	(2.500)			(2.150)		(2.060)	
BKWDCASTE	-0.277		BKWDCASTE	-		-	
	(-1.330)			-		-	
HHSIZE2	-0.159		HHSIZE2 (continuous in adult mod)	-		-	
	(-0.810)			-		-	
HHSIZE3	-0.842	*	HHSIZE3	-		-	
	(-1.970)			-		-	
FEMALE	-0.361		FEMALE	-		-	
	(-0.750)			-		-	
AGE2	-0.332		AGE (continuous)	0.015	*	0.013	
	(-0.270)			(1.980)		(1.360)	
AGE3	0.502			-		-	
	(0.710)			-		-	
AGE4	-0.103			-		-	
	(-0.130)			-		-	
AGE5	-0.112			-		-	
	(-0.130)			-		-	
AGE6	0.282			-		-	
	(0.380)			-		-	
AGE7	0.479			-		-	
	(0.560)			-		-	
AGE8	1.488	**		-		-	
	(2.300)			-		-	
LITERATE	-0.321		LITERATE	-0.161		-0.299	
	(-1.360)			(-1.040)		(-1.600)	
MARRIED	0.821	**	MARRIED	0.592		0.415	
	(2.240)			(1.560)		(1.060)	
FARMER	-0.375		FARMER	-0.429		-0.024	
	(-0.930)			(-1.010)		(-0.090)	
DAILYWAGE	0.370		DAILYWAGE	0.185		0.137	
	(0.800)			(0.380)		(0.380)	
DOMESTIC	-0.816	*	DOMESTIC	-1.009	**	-0.663	*
	(-1.950)			(-2.250)		(-1.980)	
NOT-ABLE	-0.102		NOT-ABLE	-0.009		0.250	
	(-0.170)			(-0.020)		(0.460)	
NUMBACUTE	-0.042		NUMBACUTE	-		-	
	(-0.100)			-		-	
PRIVATE	1.825	***	PRIVATE	1.897	***	1.812	***
	(7.050)			(6.420)		(5.740)	
NONPROF	-1.810		NONPROF	-1.781		-2.113	
	(-0.930)			(-0.910)		(-0.920)	
MEDIUM	0.693	**	MEDIUM	0.703	**	0.497	
	(2.100)			(2.210)		(1.420)	
LONG	1.512	***	LONG	1.547	***	1.327	***
	(4.700)			(4.730)		(4.960)	
OBS/GYN	0.386		OBS/GYN	-		-	
	(1.500)			-		-	
Adjusted Wald Test, F =	0.610		Adjusted Wald Test, F =	2,073		225.230	
P-value =	0.784		P-value =	0.001		0.004	
R-squared =	60.93%		R-squared =	57.78%		62.8%	
Ramsey Reset Test, F =	2.08		Ramsey Reset Test, F =	1.51		1.16	
P-value =	0.143		P-value =	0.251		0.354	

* 10% significance level; ** 5% significance level; *** 1% significance level

DISCUSSION

Summary of findings

Wealth, proxied by quintiles of the assets index (the ESI), was not significantly associated with membership in TF, although there was a trend towards higher levels of membership among wealthier quintiles. Of 77 hospitalisations among TF members over one year, only 7 were taken at private-non-profit hospitals, including Shri Krishna Hospital. TF membership was associated with significantly lower probability of having been hospitalised. TF membership was not associated with hospital expenditures, net of discount.

Critique of methodology

One possible limitation of this sub-study was the questionable validity and accuracy of the Economic Status Index (ESI) as a proxy for household wealth. A similar index developed for Indian survey data (Filmer and Pritchett 2001) was closely correlated with State Domestic Product (SDP) and poverty rates data. Using data from Indonesia, Pakistan and Nepal, they also showed their asset index to be consistent with consumption expenditures. Comparison of the index used in this sub-study with the interviewers' assessments of wealth and with daily household expenditures on food suggested strong correlation (see Appendix 3). However, the fact that the ESI did not correlate positively with frequency of hospitalisation nor positively with net annual expenditures per hospitalised individual calls into question the validity of this proxy. (Although in the household-level calculations, Appendix 6, Table A6.6, the ESI did positively correlate with net annual hospital expenditures among households with one or more hospitalisation.) If the ESI was not a valid and accurate proxy of wealth, this might explain the lack of association between the ESI and membership in TF. Failure to adequately control for wealth might also have resulted in the significant association between TF membership and low rates of hospital utilisation. However, if TF members were wealthier than controls, one would expect failure to control for wealth to result in a positive bias in frequency of hospitalisation among members, not a negative one.

This sub-study was relatively small in sample size. The sub-study consistently found higher rates of TF membership among higher quintiles of ESI, however this association was not statistically significant. Had the sub-study been larger, this association might have been significant. A larger sample size also would have been required to capture increased hospital utilisation or decreased hospital spending resulting from membership in the scheme. Only 9% of TF member hospitalisations were taken at a private-non-profit hospital (and it is possible that not all of these were taken at Shri Krishna Hospital).

It is possible, although unlikely, that observation bias impacted on the sub-study results. Interviewer bias may have occurred if investigators elicited or interpreted information differently among the insured versus the non-insured. It was impossible to blind interviewers to the membership status households. The interviewers did come to make generalisations about households, for example, that TF households tended to be relatively wealthy. Thus, there may have been some bias in how they were recording household asset information. It is also possible that the interviewers (most of whom were social workers who seemed to have an affinity for the poorer households) probed more carefully into health care seeking and spending among poorer households. Subjects may also have reported events in a non-comparable manner (recall bias). For example, TF members may have more accurately recalled the number of household hospitalisations, or remembered how much had been spent on hospitalisation, as they may have been sensitised to the subject by the information, education and communication from TF. However, this seems unlikely, especially given the low levels of awareness about the TF scheme among TF members (described in Chapter 7).

The level at which the analyses were conducted, individual- versus household-level, had little impact on the sub-study results. At both levels, the results for Models 1 and 3 were the same: that ESI was not significantly associated with membership in TF (although there was a trend towards higher probability of membership among higher quintiles of ESI) and membership in TF was not significantly associated with

hospital expenditures. However, for Model 2, results varied slightly by level of analysis – at the individual level, TF membership was significantly associated with decreased probability of hospitalisation, while at the household-level this association was of borderline significance only. Possible reasons for this difference are threefold. Firstly, (and most likely) the smaller number of observations at the household-level decreased the power of the sub-study to detect a difference. Secondly, it may be that one of the two models was mis-specified (i.e. failed to control adequately for confounding variables). This seems less unlikely given that every attempt was made to include the same variables at both levels – reflected in the fact that the odds ratios were remarkably similar. Thirdly, it may be that certain of the aggregate variables measured a different construct than its name-sake at the individual level. At issue is whether certain variables – for example, insurance at the household level – can be assumed to be divided equally among all household members. Or conversely, whether certain individual level-variables can be assumed to impact on the entire household. For example, can it be assumed that sex ratio at the household level (majority male or majority female) impacts on health care utilisation and expenditure of all members of the household? The fact that the odds ratios and coefficients were similar across the two levels of analysis suggest that such problems with construct validity were fairly minimal.

Certain of the survey questions yielded more reliable responses than others (see Appendix 8 for analysis of re-interviews). Questions regarding characteristics of the family (e.g. religion) or specific individuals (e.g. marital status) generally elicited the same response in both interviews. Questions regarding household assets (e.g. type of material used to make walls of the home, whether or not household owned a refrigerator) were less likely to yield reliable results. This may have hampered the validity of the ESI. Questions about the type of hospital used and the cost of hospitalisation were answered with surprising reliability, while the duration of hospitalisation was provided with less reliability.

Discussion and interpretation of findings

While not statistically significant, there was a trend towards higher rates of TF membership among wealthier ESI quintiles. This has been the case with many other CBHI schemes. In fact, this trend was expected as TF membership, while not exclusive to members of local dairy co-operatives, was certainly more accessible to this group. The TF village health worker (VHW) normally enrolled families at the office of the village dairy co-operative at the time of the annual bonus distribution. Members of the dairy co-operative tend not to be very poor, as they must at least be sufficiently wealthy to purchase and keep at least one cow or buffalo. Those who were not part of the dairy co-operative were welcome to join TF, but in some villages they never came to know about the scheme. It is highly unlikely that the membership fee, only Rs. 10 per annum, deterred anyone from joining the scheme.

The association between TF membership and lower rates of hospital utilisation (significant in the individual-level analysis, of borderline significance in the household-level analysis, and non-significant in the individual-level analysis restricted to household heads) suggests that TF members had lesser need for hospitalisation, or lesser ability to access hospital care. A lesser need for hospital care is certainly possible. It may be, for instance, that the village-level preventive and curative services provided by TF decreased the need for higher-level care among TF members. However, TF's village-level services, provided through the VHW, were available at the same cost to members and non-members (although non-members may have been less aware of these services). Furthermore, the household survey revealed that TF members were no more likely to seek allopathic outpatient care (including VHWs, nurses, practitioners) than were non-members (data not presented here). It is more likely that TF members differed from non-members in ways that impacted positively on health, and that were not controlled for in the analysis. As already discussed, the ESI may not have fully controlled for the effect of wealth. Other reasons that members may have been healthier than non-members include better nutrition (readier access to milk) or more exercise. Alternatively (but unlikely), TF members may have faced barriers to accessing inpatient care. This

may be the case, for example, if TF members lived farther, on average, from hospitals; the survey did not collect information on distance from home to the nearest hospital facility, and thus could not control for this.

Almost all other studies of CBHI schemes have found that insurance that covers the costs of hospitalisation increases hospital utilisation and decreases expenditures (Table 3.1). This may reflect a publication bias, wherein the most successful schemes are the most likely to have been studied and reported on. Failure of TF's hospital referral scheme to impact on hospital utilisation and expenditure was most likely due to very low rates of utilisation of the referral scheme. Low rates of utilisation may have been due to several factors, either alone or in combination. Members may have lacked information about the referral services, they may have found the services difficult to access (for example, because they are too far or too expensive), or they may have chosen alternative inpatient services (for example, because quality was perceived to be higher in the private-for-profit sector, or because Shri Krishna Hospital was perceived to be of low quality). Alternatively, TF may have discouraged (or failed to encourage) use of Shri Krishna Hospital by its members, given the mounting financial imbalances. At least during the last five years of the referral scheme, the discounts provided to TF patients at Shri Krishna Hospital exceeded the Rs. 500,000 donated each year by Kaira Can to offset the costs of caring for TF members. The results of the qualitative sub-study (Chapter 7) suggest that lack of information among the beneficiary population regarding the referral benefits and problems with how Shri Krishna Hospital was perceived – e.g. a place where people go to die, a hospital where doctors in training get their practice – were particularly important factors.

The findings of this chapter do leave one wondering whether there were any benefits to members of TF's hospital referral scheme. The fact that the scheme was discontinued late in 1999, and replaced by a new insurance scheme (see Appendix 9) adds weight to this pessimistic view. Certainly, this household survey did not capture any "significant" benefits relating to the hospital referral scheme among the

surveyed population. However, it remains a possibility that the scheme was beneficial to the (perhaps relatively small) population of people who have actually made use of Shri Krishna Hospital. This possibility is explored in the following chapter (Chapter 6). TF may also have had benefits to its target population through its preventive and primary health care services; however, this study makes no attempt to assess these activities.

Conclusions and policy implications

There was a trend, although not significant, towards higher wealth among members of TF. TF was intended by those who initiated it, and by the current management, to target the poorest households in target villages. The scheme appears to have been somewhat unsuccessful in this regard. In order to increase coverage of the very poor, and thus facilitate cross-subsidisation within the scheme (and also to ensure that external subsidies reach the poorest in target communities), TF's hospital referral scheme would need to increase its outreach activities, providing more information and education to poor households, including those that do not deposit milk at the local dairies.

This sub-study helps to highlight knowledge gaps that can be addressed with further research. Several questions were not included in the household questionnaire that, in retrospect, should have been included. Most importantly, rather than collecting rather broad information around source of hospitalisation (one option was "private-non-profit hospital, including Shri Krishna Hospital"), the survey should have asked people specifically if they were hospitalised at Shri Krishna and whether they received any discount as a result of membership in TF. It would have been useful to have had even more information about the relative health of the TF and non-member populations. The lower frequency of hospitalisation among TF members may have resulted from their being healthier, on average, than controls; as such, it would have been useful to have information on the prevalence of chronic disease, but this was not available from the questionnaire. In order to validate the ESI, additional information could have been collected on household consumption expenditures

(Morris, et al. 2000). More generally, future research should look into the factors that help or hinder members of a CBHI scheme in using the scheme's services.

CHAPTER 6: EVIDENCE FROM 8,463 BILLS SUBMITTED BY SHRI KRISHNA HOSPITAL, 1996-2000

SUMMARY

This sub-study assesses Tribhuvandas Foundation's referral services based on bills submitted by Shri Krishna Hospital. The scheme is assessed in terms of (1) frequency of use of the referral services, overall and by gender, age and place of residence and (2) protection of beneficiaries from hospital costs. All 8,463 claims submitted over four fiscal years, 1996/97 to 1999 2000 were analysed.

Frequency of use of the referral scheme (2.7 admissions per 1,000 members per year) was very low, roughly 6% of the estimated frequency of hospitalisation. Rates of use were no higher among women and children, the primary target groups. The highest rates of utilisation occurred in talukas closest to the referral hospital. In 10% of cases (N = 881), no discount was provided. Of the hospitalisations on which some discount was given, the mean rate of discount was 54.9% (N = 7,582, median = 48%). The discount provided to TF members reduced the percentage of hospitalisations for which costs would have been catastrophic (>10% of annual household income) from 11-25% to 5-11%.

Consistent with results of the household survey (Chapter 5), this analysis found that rates of scheme utilisation were low relative to overall rates of hospitalisation. This analysis provides evidence that distance acted as a barrier to utilisation of Shri Krishna Hospital, and that any mechanisms that might have been put in place to facilitate scheme utilisation by women and children have been ineffective. The discount (theoretically 50% of total direct costs) appears to have provided financial protection to some members who used the scheme. Protection, particularly among those who experienced the most expensive hospitalisations, was enhanced by the lack of any cap on benefits.

INTRODUCTION

In the last chapter, analysis of household survey data revealed that the rate of utilisation of private-non-profit hospitals, including Shri Krishna Hospital, was very low among TF members. The scheme was found not to have had a significant impact on total annual hospital expenditures per TF member hospitalised, compared with hospitalised controls. However, the household survey did not allow for an evaluation of the financial protection conferred by the scheme among those who have actually used Shri Krishna Hospital. The number of hospitalisations in private-non-profit facilities among TF members was very low (only seven over one year) and it was not possible to distinguish between Shri Krishna Hospital and other private-non-profit facilities.

This chapter assesses the impact of TF's hospital referral scheme based on an analysis of all bills submitted by Shri Krishna Hospital for the fiscal years 1996 97 through 1999/2000. Analysis of this much larger sample of individuals who have used Shri Krishna Hospital permits a more powerful evaluation of the financial benefits provided under the scheme. The scheme is assessed in terms of (1) frequency of use of the referral services, overall and by gender, age and place of residence (thesis Objectives 1 and 3) and (2) protection of beneficiaries from hospital costs (thesis Objective 2). It was hypothesised that the frequency of hospitalisation at Shri Krishna Hospital would be high in comparison to the average rate of hospitalisation among an age- and gender-matched population. Furthermore, that utilisation of Shri Krishna would be particularly high among women and children, given that they were cited as the target populations of TF. Secondly, it was hypothesised that the scheme would significantly reduce the percentage of hospitalisations for which the direct costs were catastrophic. Following the example of Pradhan and Prescott (2000), costs were defined as catastrophic when they consumed greater than 10% of annual household income.

The first section of this chapter describes the methods used in analysing the bills submitted by Shri Krishna Hospital and the second section presents results of the

analysis. The final section discusses the results and their policy implications.

METHODOLOGY

This analysis is based on the bills submitted to Tribhuvandas Foundation by the Shri Krishna Hospital for the fiscal years 1996/97 to 1999/00 (each fiscal year is from 1st April through 31st March). The bills were entered into, and analysed using, Stata. The data available from claims were as follows: the number of bills submitted per annum; gender and taluka of residence for each person hospitalised; whether the patient was admitted to the Nutritional Resource Centre (NRC) or the "adult wards" [1]; total cost of the hospitalisation (no cost break-down was provided); whether a discount was provided, and if so, in what amount.

Additionally, the following data sources were used in the analysis:

1/ TF's annual reports were the source of number of member households per year.

2/ In order to estimate the total size of TF's member population, the mean household size of 5.3 persons from the household survey (Chapter 5) was assumed.

3/ The overall frequency of hospitalisation among this population was derived from the thesis household survey (Chapter 5) as well as other household surveys done in Gujarat (Gumber & Kulkarni 2000; Sundar 1995).[2]

4/ Mean annual income of TF households was assumed to be in the range of Rs. 22,054 and 36,757. The wide range reflects uncertainty in the precise value, given that income of TF households had to be imputed from data which were available for SEWA households (Chapter 9). The ESI, computed for TF and SEWA households based on data collected in a household survey (Chapters 5 and 8), was assumed to be perfectly correlated with annual income in rupees. The estimated mean income was

---

[1] All children younger than 10 to 15 years of age (the threshold was somewhat flexible) were admitted to the NRC. This is the only indicator available as to the age of the TF members who were hospitalised.

[2] Given that the thesis household survey was relatively small, and hospitalisation was a relatively rare event, data on the frequency of hospitalisation were drawn from other studies to ensure the validity of

calculated by multiplying the mean ESI for TF households (3.15 on a scale grounded at zero) by the mean income known for SEWA claimants from utilisation records (Chapter 9, Rs. 25,984) and dividing by the mean ESI for SEWA households (2.78 on the same scale as the TF ESI). To reflect the uncertainty in this estimate, it was multiplied by 0.75 for the low-end estimate and by 1.25 for the high-end estimate.

Gross Domestic Product (GDP) deflators for India from the International Monetary Fund (2000) were used in these calculations. Deflators were not available for calendar years 1999 and 2000 and were estimated by extrapolating from the data for the preceding ten years (1988 to 99), assuming a linear increase. Deflators that correspond to TF's financial year were estimated by taking the weighted average of the deflators for the two calendar years included (for example, the GDP deflator for 1996/97 is 0.75 x the deflator for 1996 + 0.25 x the deflator for 1997). Monetary amounts for the year 1999/00 are also expressed in US$ using the exchange rate at the end of calendar year 1999, Rs. 43.49 to one US$ (2000).

RESULTS

A total of 8,463 hospitalisations were billed during the four year period. The records for fiscal year 1999/00 were incomplete as not all of the bills had been submitted to TF. The mean duration of hospital stay was just over eight days.

Frequency of use of the referral scheme

The frequency of use of Shri Krishna Hospital by TF members was low – and decreasing yearly – over the four-year period examined. On average, TF members used Shri Krishna Hospital for 2.7[3] hospitalisations per 1,000 members per year (1996 to 2000), and this had dropped from 4.2 per 1,000 members in 1996/97 to 1.4 per 1,000 members in 1999/2000 (Table 6.1). This was a function of decreasing absolute numbers hospitalised and increasing total numbers of TF members. The

---

the results of this sub-study.

[3] Frequency of hospitalisation/1,000/year = Total number of hospitalisations per year (households enrolled in the TF scheme during that year*5.3 individuals per household)

overall frequency of use of Shri Krishna Hospital by TF members was extremely low compared to the expected rate of hospitalisation in this population (Figure 6.1). The mean frequency of use of Shri Krishna Hospital (2.7/1,000 members) was only 6.3% of the mean rate of hospitalisation found in the thesis household survey (Chapter 5) and represented as little as 3.0% (Sundar 1995, urban Gujarat) of hospitalisations found in other studies in Gujarat state.

Table 6.1: Frequency of hospitalisation, by year

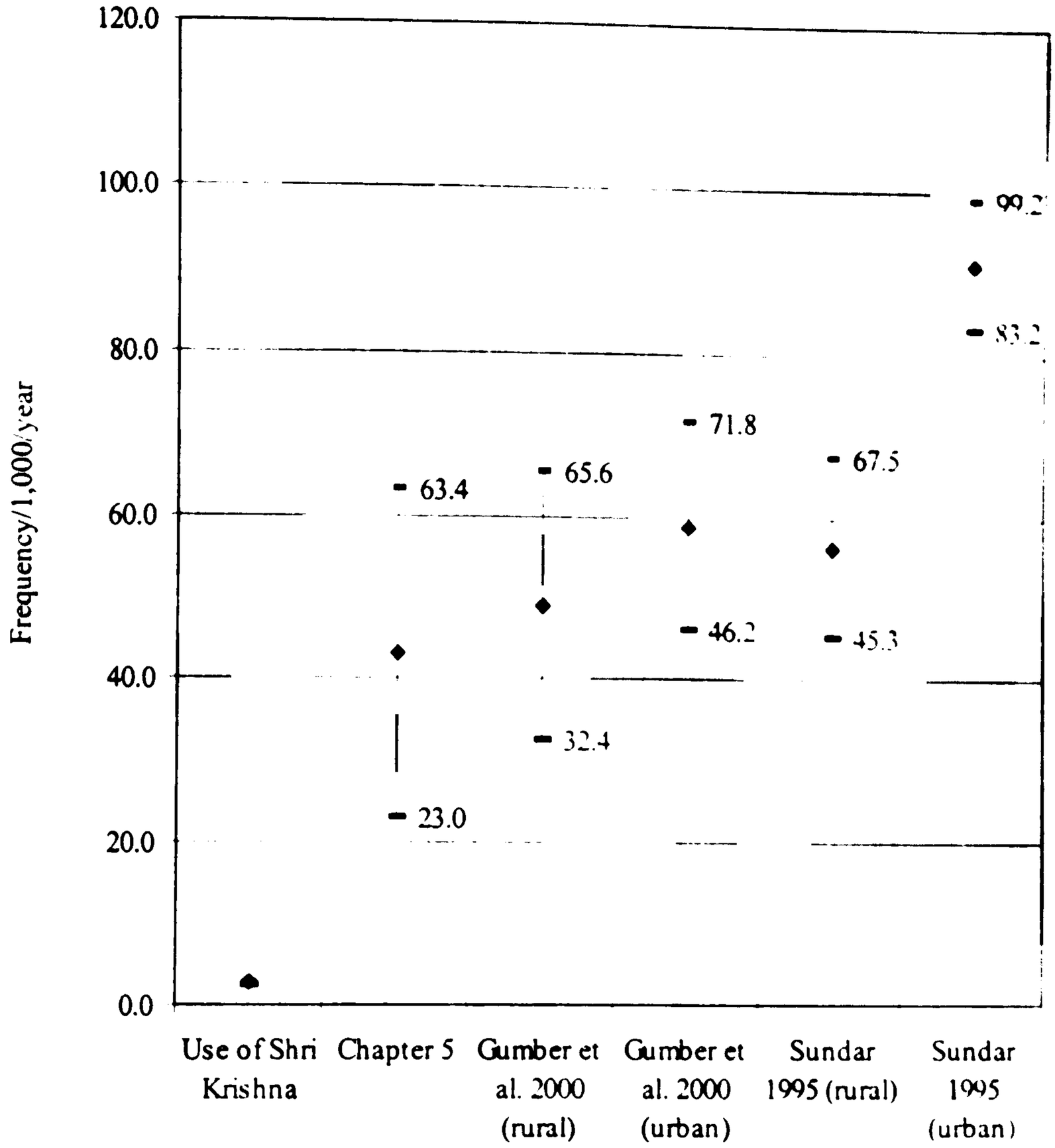
Year	Claims	Member-years	Frequency (claims/1,000)
96/97	2,913	690,908	4.2
97/98	2,225	730,287	3.0
98/99	2,071	809,469	2.6
99/00	1,254	883,245	1.4
Total	**8,463**	**3,113,909**	**2.7**

Assuming that the age and gender composition of the member population was exactly the same as that found in the household survey (Chapter 5), the referral scheme appears to have failed to target women and children. Table 6.2 presents low- and high-end estimates of the frequency of utilisation by children and adults.[4] Utilisation by males (adults and children combined) was 2.8 per 1,000 population per year, compared with 2.6 among females. Utilisation among children was in the range of 2.1 to 3.1 per 1,000 population per year compared with 2.6 to 3.0 among adults. Among children, frequency of utilisation was higher for boys (2.5 to 3.6 per 1,000 population per year) than girls (1.7 to 2.4).

---

[4] Low-end estimates for children assume the denominator to include children less than 15 years of age, while the high-end estimates assume the denominator to include children less than 10 years of age. Low-end estimates for adults assume the denominator to include adults older than 10 years of age, and high-end estimates assume the denominator to include adults older than 15 years of age.

Figure 6.1: Use of Shri Krishna Hospital by TF members versus frequency of hospitalisation in Gujarat (various sources) with 95% confidence intervals



Rates of utilisation were highest in talukas closest to Shri Krishna Hospital (Figure 6.2).[5] The rate was highest for Anand (where Shri Krishna Hospital is situated) where there have been roughly 35 admissions per TF village over the four-year period. Rates were also high for the nearby talukas of Petlad (24 admissions per village per year) Borsad (22) and Khambhat (21). The rates were lowest for the

---

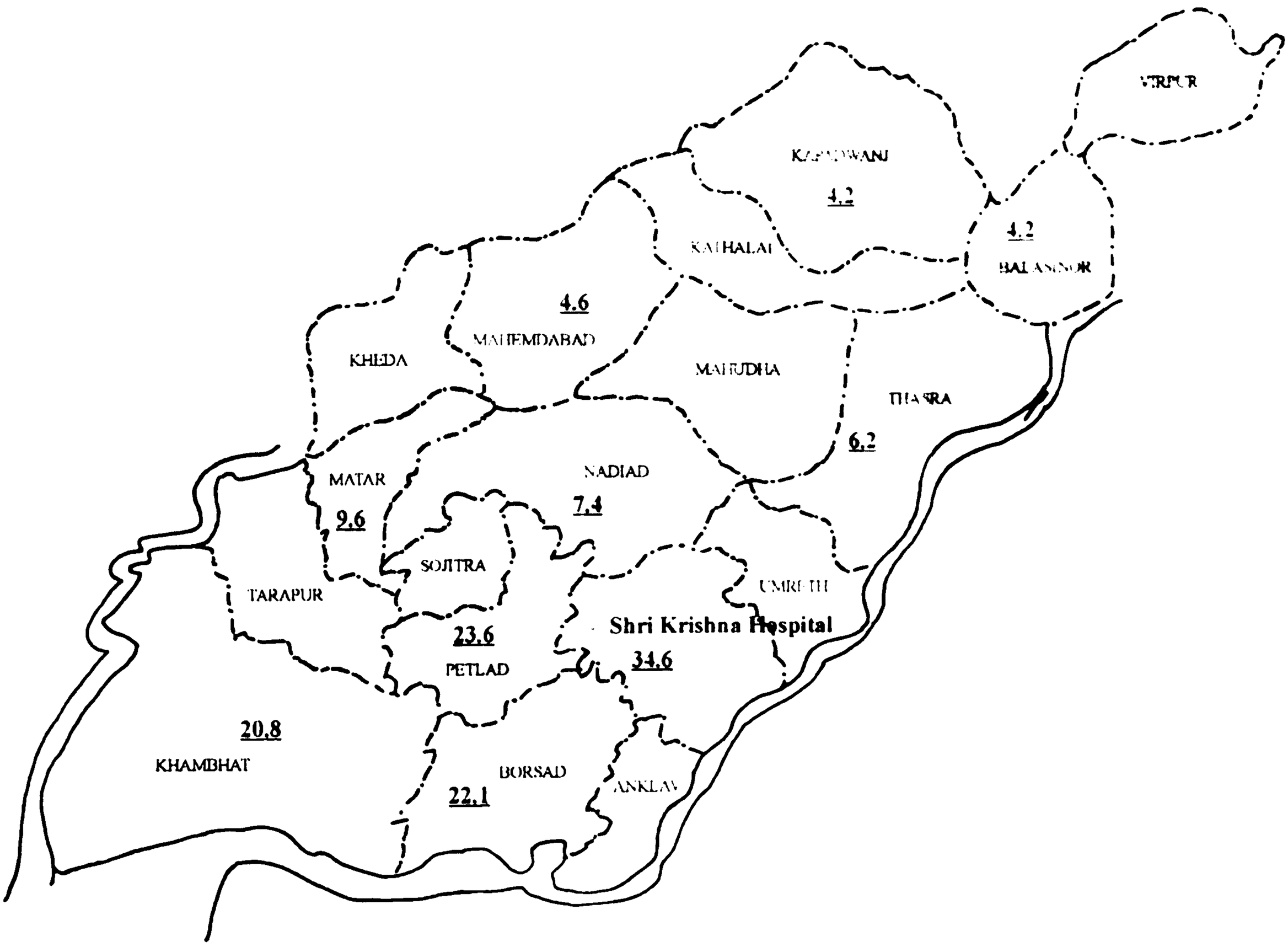
[5] The average number of admissions per TF village over four years were calculated, by taluka. The denominator, i.e. the number of TF villages per taluka, is for the 1998/99 fiscal year. It was assumed that the number of TF villages in each of the talukas was static over the four-year period, which is certainly not true. TF records show that the total number of TF villages increased only from 611 in 1996/97 to 644 in 1999/00. It would have been better to use number of households or TF members as the denominator, but these data were not available.

talukas that are farthest from Anand; Balasinor and Kapadwanj, both with 4 admissions per TF village, and Mahemdawad with 5 admissions per TF village. It is possible that the far-away TF villages have, on average, fewer TF member-households (which would account, at least in part, for the differences in utilisation); unfortunately, data on this were not available.

Table 6.2: Total number of hospitalisations at Shri Krishna Hospital, and frequency of utilisation per 1,000 population per year, by gender and age

	Males	Females	Total
Children			
Low-end estimate (assumes that NRC admissions are < 15 years-old)			
Claims	1,372	784	2,156
Population	558,305	460,136	1,018,441
Frequency	*2.5*	*1.7*	*2.1*
High-end estimate (assumes that NRC admissions are < 10 years-old)			
Claims	1,372	784	2,156
Population	382,313	321,605	703,915
Frequency	*3.6*	*2.4*	*3.1*
Adults			
Low-end estimate (assumes that adult admissions are 10+ years-old)			
Claims	3,273	3,033	6,306
Population	1,252,097	1,157,895	2,409,994
Frequency	*2.6*	*2.6*	*2.6*
High-end estimate (assumes that adult admissions are 15+ years-old)			
Claims	3,273	3,033	6,306
Population	1,076,105	1,019,363	2,095,468
Frequency	*3.0*	*3.0*	*3.0*
Total			
Claims	4,645	3,817	8,463
Population	1,634,363	1,479,546	3,113,909
Frequency	*2.8*	*2.6*	*2.7*

Figure 6.2: The frequency of utilisation of Shri Krishna Hospital (admissions per village over four years) by taluka of residence



Protection from costs of hospitalisation

On average, TF members were provided with discounts for a high percentage of the total (direct) costs of hospitalisation (Table 6.3). In 10% of cases (N = 881), no discount was provided. The median cost of "discounted" hospitalisations was Rs. 1,172 (25 US$, N = 7,582, mean = Rs. 1,820) and the median amount discounted was Rs. 540 (12 US$, N = 7,582, mean = Rs. 877). Of the hospitalisations on which some discount was received, 25% (1,911) were provided for free and the mean rate of discount among the remainder was 39.7% (N = 5,672, median = 36%); the mean rate for all discounted claims was 54.9% (N = 7,582, median = 48%).

Table 6.3: Cost of hospitalisation and amount reimbursed

	Mean	95% CI		Median	N
Average total cost of all hospitalisations (Rs)	1,736	1,694	1,779	1,096	8,463
Total cost of all discounted hospitalisations (Rs)	1,820	1,775	1,865	1,172	7,582
As % of annual HH income - **LOW**	-	4.83%	-	-	"
As % of annual HH income - **HIGH**	-	-	8.46%	-	"
% for whom total cost is catastrophic - **LOW** (1)	11.47%	-	-	-	"
% for whom total cost is catastrophic - **HIGH** (2)	25.43%	-	-	-	"
Amount deducted	877	852	903	540	7,582
As % of total hospital costs	54.87%	54.15%	55.58%	48.00%	7,582
Amount borne by claimants, after deduction (Rs)	943	910	976	461	7,582
As % of annual HH income - **LOW**	-	2.47%	-	-	"
As % of annual HH income - **HIGH**	-	-	4.43%	-	"
% for whom total cost (after deduction) is catastrophic - **LOW** (1)	4.83%	-	-	-	"
% for whom total cost (after deduction) is catastrophic - **HIGH** (2)	11.33%	-	-	-	"

1 = Uses estimated high-end mean income of Rs. 36,757

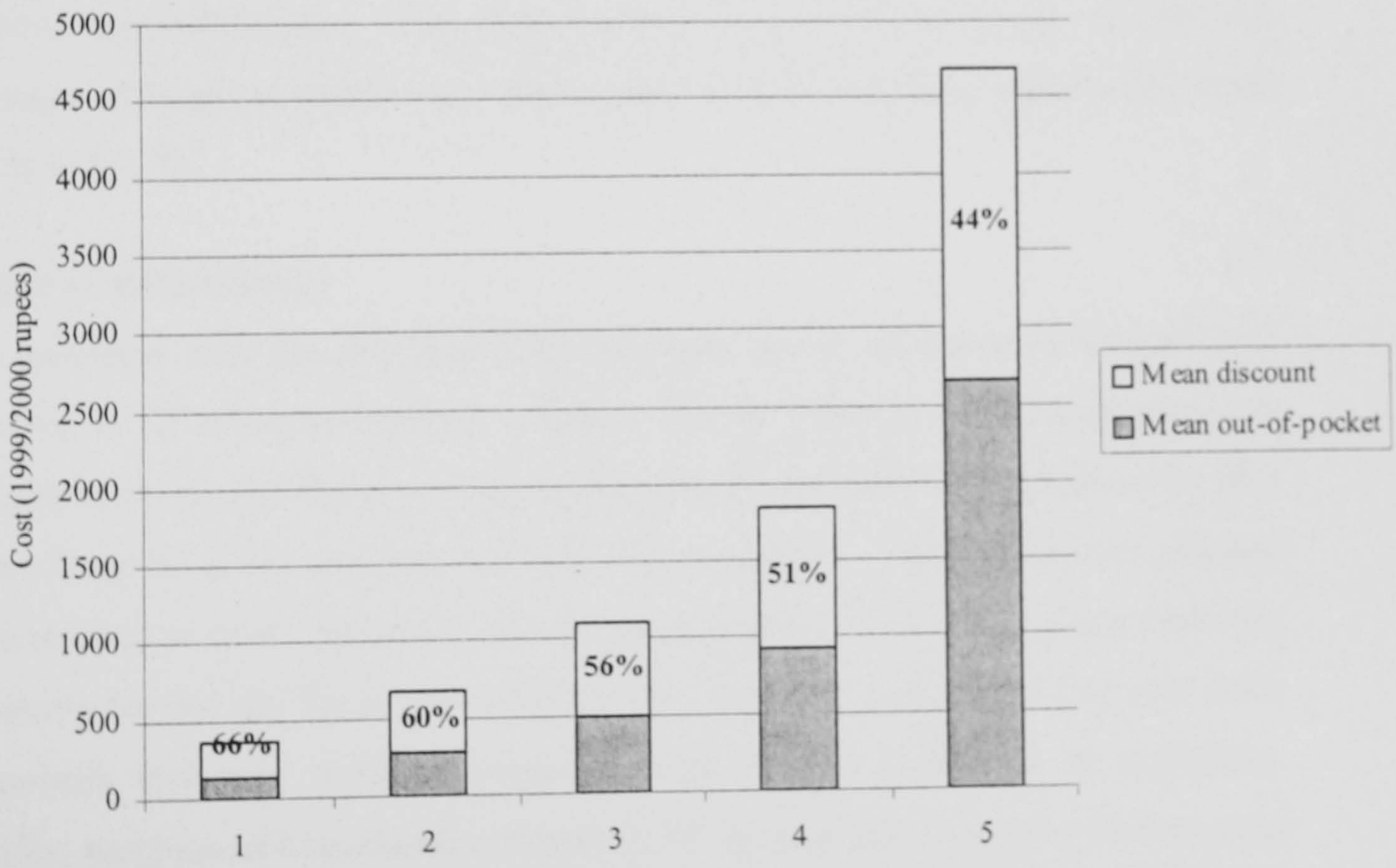
2 = Uses estimated low-end median income of Rs. 22,054

TF's hospital referral scheme lessened the financial burden of hospital costs to its members; however, even after discount, the costs borne by some of the members were catastrophic. The mean cost of hospitalisation (4.8 to 8.5% of mean annual household income) was considerably higher than the mean cost borne by members after discount (2.5 to 4.4% of income; Table 6.3). For 11 to 25% of hospitalisations,

the total costs would have been catastrophic to the patient (and his/her household), while costs borne by the patient after discount were catastrophic in 5 to 11%.

The protection conferred by TF's hospital referral scheme was greatest in absolute terms amongst those members who experienced the most expensive hospitalisations. As illustrated in Figure 6.3, the mean rate of discount varied relatively little across quintiles of total hospital costs, from 66% among the least expensive hospitalisations to 44% among the most expensive hospitalisations.

Figure 6.3: Mean out-of-pocket expenditure and discount by quintiles of total cost of hospitalisation



DISCUSSION

Summary of findings

Frequency of use of the referral scheme (3.2 admissions per 1,000 members per year) was very low, roughly 6% of the estimated frequency of hospitalisation. Rates of use were no higher among women and children, the primary target groups. Rates of utilisation varied markedly from one taluka (sub-district) to another, with the highest rates occurring in talukas closest to the referral hospital. In 10% of cases (N = 881), no discount was provided. Of the hospitalisations on which some discount was given, the mean rate of discount was 54.9% (N = 7,582, median = 48%). The mean rate of discount varied relatively little across quintiles of total hospital costs, from 66% among the least expensive hospitalisations to 44% among the most expensive hospitalisations. The discount provided to TF members reduced the percentage of hospitalisations for which costs would have been catastrophic from 11-25% to 5-11%.

Critique of methodology

Three problems with the data may have impacted on the estimates of frequency of utilisation of TF's hospital referral scheme. Firstly, bills for some hospitalisations may have been lost (unlikely) or may not have been processed and submitted by Shri Krishna Hospital at the time this analysis was conducted. This would have resulted in underestimates of the frequency of scheme utilisation. This likely was a problem, particularly for the last fiscal year (1999/2000); however, removal of that year from the analysis had very minimal impact on the overall frequency of utilisation. Secondly, numbers of households covered by TF in each year were provided by, and generated by TF. The calculation used by TF likely overestimates the size of the covered population.[6] Inaccuracy in these figures might have led to underestimation of referral scheme utilisation. Thirdly, calculations of the age-specific frequency of scheme utilisation are likely to be somewhat inaccurate. This is because the hospital

---

[6] TF calculates its membership by assuming that half of the total fees collected are from households paying Rs. 10, and half are collected from households paying Rs. 5, as many households are allowed membership in TF at some reduced rate.

bills provided no information on the age of patients. While those patients who were admitted to the Nutritional Resource Centre were generally "less than 10 or 15 years-old", this was probably quite a flexible threshold, with some older patients being admitted to the NRC, and some children being admitted to the adult wards.

The data in the bills submitted by Shri Krishna Hospital were likely to be quite reliable. It must be remembered, however, that the costs reported on these bills were only for goods and services provided by Shri Krishna Hospital, for example, doctors' fees, bed fees, some medications and food. However, the total cost of hospitalisation (including indirect costs) could have been much higher; the bills did not include information on the costs of transportation, bribes and gifts paid to health care providers, and transportation and food provided to visiting family and friends. If all of these costs were accounted for, the percentage of hospitalisations that were catastrophic (both before and after discounting) could have been much higher.

Also a problem in the analysis of financial protection conferred by TF's hospital referral scheme was the lack of member-specific data on household wealth/income. A single range of income values was assumed for all households. If, however, household income varied considerably from one member to another (almost certainly, it did), and if household income was correlated with hospital spending, then this sub-study may have overestimated the frequency of catastrophic hospital costs. It is unlikely that costs at this charitable hospital were strongly correlated with income (given that members could not choose more or less expensive rooms, doctors, therapies, etc.) but were more likely to be determined by severity of illness, types of tests and procedures performed, and duration of hospitalisation. On the other hand, it is possible that TF members who used Shri Krishna Hospital were relatively poor compared with all TF members – a possibility given that this is a charitable hospital, perceived by many to be a hospital for the poor – in which case the sub-study may have under-estimated the frequency of catastrophic hospital costs.

Discussion and interpretation of findings

Consistent with results of the household survey (Chapter 5), analysis of scheme utilisation data found that rates of scheme utilisation were low relative to overall rates of hospitalisation. Low rates of utilisation may have been due to several factors, either alone or in combination. Members may have lacked information about the referral services, they may have found the services difficult to access (for example, because they were too far or too expensive), or they may, for a variety of reasons, have chosen alternative inpatient services (for example, because quality was perceived to be higher in the private-for-profit sector). Alternatively, TF may have discouraged (or failed to encourage) use of Shri Krishna Hospital by its members, given the mounting financial imbalances. The finding in this sub-study that rates of utilisation among TF members correlated inversely with distance lived from Shri Krishna Hospital suggests that distance was an important determinant of utilisation. The results of the qualitative sub-study (Chapter 7) suggest that lack of information among the beneficiary population regarding the referral benefits and problems with how Shri Krishna Hospital was perceived (e.g. a place where people go to die, a hospital where doctors in training get their practice) were also important factors.

Despite TF's aim to address the health needs of women and children, scheme utilisation was no higher among these sub-populations. This is not surprising given that there were no aspects of the scheme's design to ensure preferential access to women and children.

TF's hospital referral scheme provided some financial protection to members: among those who received a discount, the mean cost of hospitalisation, expressed as a percentage of mean annual household income, was considerably lower after the discount had been applied (2.5 to 4.4% after discount versus 4.8 to 8.5% before). However, even after discounting, costs borne by claimants were undoubtedly a threat to the financial wellbeing of some households; roughly five to eleven percent of claimants were still faced with costs equivalent to greater than 10% of annual household income. While some members (and their families) may have paid the

uncovered balance out of their savings, many undoubtedly had to borrow, sell capital, work more or forego spending. Impressive is the impact that TF's hospital referral scheme had on the burden of the most expensive hospitalisations: for the most expensive quintile of hospitalisations, the average discount provided was 44%.

The lack of any cap or ceiling on benefits provided under the scheme could prove catastrophic to a CBHI scheme – i.e. a few very expensive hospitalisations could put the scheme out of business. The TF scheme, was, for a time, able to provide un-capped benefits while at the same time remaining financially sustainable due to funds from external sources. Most CBHI schemes receive funds from some external source (Bennett, et al. 1998). However, TF is unique in that the costs of the referral scheme were entirely subsidised, in part by a donation from Kaira Can (Rs. 500,000 per year) and in part by debt incurred by Shri Krishna Hospital.

This sub-study was not able to demonstrate any equity benefits the scheme may have had. Because there was no pooling of the Rs. 10 membership fee paid (this was used to cover the preventive and primary care services) there could be no cross-subsidisation from wealthier to poorer households. However, the scheme may still have had a positive impact on equity if it transferred the external subsidy (from Khera Can) to poor households. Given that larger discounts were to be provided to poorer patients, it is possible that scheme utilisation was higher among poorer members, and that poorer members received a greater degree of protection under the scheme. However, data on household wealth income were unavailable to test this.

Conclusions and policy recommendations

The strength of the scheme (in terms of overall health system goals) was that it provided some protection against the catastrophic costs of hospitalisation, particularly among those who experienced the most costly hospitalisations. Perhaps the greatest weakness was the relatively low rate of utilisation of the scheme by those who were members. The referral scheme is no longer operational, having been replaced by the new Sardar Patel Insurance Scheme (Appendix 9).

The new scheme appears to address several of the problems of the old. Members can receive inpatient benefits at any of eight private-non-profit hospitals throughout the district, which should address the problems, under the old scheme, of geographic inaccessibility and low perceived quality of care. Inpatient care is to be provided to the patient free of cost, thus further removing financial barriers that may have prevented members from using the old scheme. Implementation of the new scheme was to be accompanied by a strong information, education and communication campaign (including printed circulars, regional meetings and training of the VHWs) which may help to increase awareness of the scheme's benefits among its members. This sub-study suggests that if the new scheme aims to target women and children, specific mechanisms will have to be put in place to ensure that they are more likely (than men, adults) to use the scheme.

Scheme design and management seem to be of utmost importance in determining impact. A scheme that does not put a cap/ceiling on deductions confers benefits even to those who undergo the most expensive hospitalisations. This may, however, not be financially sustainable for a scheme that does not receive large external subsidies. A system for monitoring the scheme is vital, so as to keep track of rates, causes, and costs of hospitalisation, and barriers that prevent utilisation of the scheme by those who are insured. When a single referral hospital is used, geographic inaccessibility and perceptions of low quality may interfere with utilisation. If certain sub-populations are to receive preferential treatment under a scheme (for example, women, children, the poor) then formal procedures must be put in place to ensure that they are effectively targeted.

CHAPTER 7: PERCEPTIONS OF, AND EXPERIENCE WITH, TRIBHUVANDAS FOUNDATION'S HOSPITAL REFERRAL SCHEME

SUMMARY

This chapter aims to investigate what participants in TF's hospital referral scheme saw it as providing, and what they perceived as accounting for its "success" or lack of it.

In-depth interviews and focus-group discussions were conducted with scheme participants – beneficiaries, health care providers, administrators and the external donor. Transcripts were coded using a grounded approach wherein codes were generated to represent the main themes found in the data. Transcripts for 27 interviews were available for analysis.

Beneficiaries (particularly females) were often unaware of their membership in the scheme. Those who were aware closely associated TF with the local dairy co-operatives, and were most familiar with TF's activities in providing free or reduced-cost medicines through local VHWs. The hospital referral scheme was seen as a vital component of TF by some beneficiaries, but as a "charity" or "social service" rather than a "health insurance" scheme. TF members who had used the hospital referral scheme reported receiving sizeable discounts. They had few complaints about the hospital referral scheme, most commonly related to the remote location of Shri Krishna Hospital or the quality or reputation of the hospital. Administrators acknowledged that the scheme had encountered difficulties as a result of unsustainable financing, and secondary to this, it had become increasingly difficult for TF members to request, and prove their eligibility, for discount at the hospital.

This research revealed that what initially seemed to be a CBHI scheme was in fact not functioning as insurance at all. This is likely to be the case with at least some other schemes described in the published literature as CBHI. As well, this sub-study illustrates some of the difficulties that can arise from relying heavily on external

sources of funding. Not only can this restrict the extent to which a scheme can grow and change, but it may also impact on beneficiaries' knowledge of, ownership of, and participation in, a scheme.

INTRODUCTION

The aim of this chapter is to investigate what participants in TF saw it as providing, and what they perceived as accounting for its "success" or lack of it. It is intended to address thesis Objectives 4 and 5, and to provide supplementary information relevant to thesis Objectives 1 to 3. The first section details the study methodology. The second describes the results and the final section summarises the results, critiques the methodology, and discusses and interprets the findings.

METHODOLOGY

In total, three FGDs (with TF members and non-members) and 30 or 31 in-depth interviews were planned. The in-depth interviews were to include: twenty-five enrolled members, three or four health care providers, one administrator and one government representative. Transcripts for 27 interviews were available for analysis: six focus-group discussions, and in-depth interviews with fourteen TF members (recent-past or current), three health care providers and four scheme administrators. Appendix 10 provides a brief description of each interview subject. Fewer beneficiary in-depth interviews were conducted than planned (14 versus 25), but a higher number of FGDs (6 versus 3) and in-depth interviews with administrators (4 versus 1). Interviews with government representatives could not be included in this analysis. District-level representatives (including the District Medical Officer) refused to be interviewed as they claimed to know absolutely nothing about insurance, or TF. A Joint Secretary of Health (Government of India) was interviewed, but the resulting information could not be used in this sub-study as the respondent did not allow the interview to be recorded.

RESULTS

The main areas the beneficiaries discussed included: recent illnesses in the household, types of health care sought, costs of health care, and mechanisms for coping with health care expenditures. Health care providers, scheme administrators and the external donor discussed their personal experiences and opinions around the hospital referral scheme. Five main themes emerged from the data:

- Financial determinants of health care seeking;
- Methods of coping with medical (especially hospital) expenditures;
- Understanding and knowledge of insurance in general;
- Reasons for participating in TF: perceptions as to what TF and the hospital referral scheme were providing;
- Experiences of those who used the hospital referral scheme

Findings in respect to the three former themes have been placed in Appendix 11 since they are of less relevance to the focus here on the scheme.

Reasons for joining TF

This section opens by describing members' knowledge of TF (and their membership in it) and some of the factors that appear to be most important in determining whether or not people joined TF. It then explores the benefits of TF and the hospital referral scheme as perceived by participants. Results are presented under the following sub-headings:

- Members often unaware of TF;
- TF perceived to be for members of the local dairy co-operatives;
- Expectations among beneficiaries and administrators;
- "No, this cannot be considered health insurance".

Members often unaware of TF

Beneficiaries (i.e. members of TF households) were often unaware of their membership in the scheme. There emerged a number of possible explanations as to why this was the case. In some villages the membership fee was taken automatically by the dairy secretary with only minimal (or no) discussion with beneficiaries. In

the following passage, male members of TF discuss their lack of awareness:

> *Respondent 1: How can we get the benefit (of the TF scheme) if we do not know anything?*
> *Respondent 2: At the time of bonus they say that your ten rupees are deducted. So we also say okay, let them deduct. And at that time we get the receipt.*
> *Interviewer: Don't any of you ask, "why are you deducting ten rupees?"*
> *Respondent 2: No, no.*
> *Respondent 1: Yes they ask. And in return we get the receipt as an answer of our question.*
> *Respondent 3: Till today very few have knowledge about this scheme. Only those who are educated have knowledge about this scheme. They ask about these ten rupees. People like me ask, "why this ten rupees is deducted?" So they say "for Foundation". So I came to know that it is to receive benefits of Foundation.*
> *(FGD-MIX 3)*

In the following passage a TF village health worker acknowledged that the secretary for the local dairy co-operative would automatically deduct the TF membership fee of Rs. 10:

> *Our secretary is very good. Without taking anyone's permission he just cuts the ten rupees before giving the annual bonus to members (of the dairy co-operative).*
> *(PROV-TF 2)*

Female members generally had even less information about the benefits of TF than did males. In some cases, this may have occurred as the membership was purchased by a male family member, as was the case for Respondent 1 in the following FGD:

> *Interviewer to Respondent 1: Is your ten rupees deducted (from the annual bonus)*
> *Respondent 2: She doesn't know.*
> *Interviewer: You do not know. Do you deposit milk?*
> *Respondent 1: Yes.*
> *Respondent 2: So they received bonus. So it is deducted at that time.*
> *Respondent 3: Her husband or her son goes to collect the bonus so they know.*
> *(FGD-MIX 1)*

<u>Perceived association with local dairy co-operatives</u>

People closely associated the TF scheme with the local dairy co-operatives. Many members believed that membership was restricted to those who belong to the dairy co-operative (i.e. those who regularly deposit milk):

Respondent 1: Only those who deposit milk at the dairy pay (the TF membership fee). Those who don't deposit... why would they pay?
Respondent 2: Earlier I was not depositing (milk at the dairy). Now we have bought a buffalo. So now I will pay. Otherwise I was not paying.
(FGD-TF 1)

There were numerous cases where past members of TF had discontinued their membership (sometimes temporarily) because they were not depositing milk:

Respondent: Next year when we get bonus, we will pay (the TF membership fee) again.
Interviewer: But, you haven't paid this year. Didn't you pay this year?
Respondent: No, we did not have milk at that time. We did not pay.
(BEN-TF 3)

This perceived association between TF and the dairy co-operatives was so strong that some members felt that the work done by TF should be carefully targeted to those who deposit milk. For example, one member believed that current problems with the hospital referral scheme (i.e. discontinuation of the guaranteed discount) resulted from "abuse" of the scheme by members of "upper economic groups" who do not deposit milk:

Respondent 1: And now T.F. has stopped providing these services (discounts at Shri Krishna Hospital). And the only reason for this is the abuse (by members). Here we have our TF social worker (VHW). So she gives the card to everyone! And because of this, the milk farmers who were depositing the milk were not able to take the benefit while other people were taking the benefits – poor people were left out and people from upper economic groups were taking the benefit. This was happening... These benefits are given by TF, but this should be used by farmers rather than them...
(FGD-MIX 3)

<u>Expectations of TF</u>

TF beneficiaries who were aware of the services provided by the organisation generally cited free or reduced-cost medicines as the primary benefit:

Respondent: Ten rupees we pay.
Interviewer: Do you get any advantages against it?
Respondent: Sister (TF worker) comes here from Balasinor. Gives medicines. That is, they take one or two rupees. For some illnesses they take two rupees.
Interviewer: Do you get any other benefit?
Respondent: Nothing else.

(BEN-TF 4)

So you see, we can get medicines if we have conjunctivitis, we get medicines if we have cough. Isn't it? So we can get these medicines.
(FGD-TF 1)

Few mentioned the inpatient services at the TF sub-centers, and referral services to Shri Krishna Hospital. Among those who had not actually made use of the hospital referral scheme, knowledge of the scheme was vague:

Interviewer: They are deducting money from the dairy directly. So, do you get any benefit against it? Do you know?
Respondent: If we want to go, then when we pay ten rupees, they give us a card (red membership card). With the help of the card, we can go. We have heard that they take us to Karamsad medical (Shri Krishna Hospital). They get us admitted and the expense is reduced. That's what we have heard.
(BEN-TF 2)

Several believed the discount to be fixed at fifty percent:

Respondent 1: Pay ten rupees and they can become members.
Respondent 2: If the hospital expense is worth one thousand rupees, they give five hundred and five hundred we give.
Respondent 3: Five hundred worth of benefit.
(FGD-TF 2)

Respondent: They take ten rupees as family membership. I am also member. And during the whole year if anything happens to any family member then they (TF) provide the treatment in Shri Krishna medical hospital. And if the person has taken a certificate from dairy co-operative (i.e. the TF membership paper) then they can get some fifty- percent discount.
(FGD-MIX 4)

Among scheme administrators at all levels, primary and preventive health care services, targeted towards poorer women and children, were the objectives most often cited for the organisation. In fact, this reflects the objective specified by Shri Tribhuvandas Patel when he provided the "seed money" to start TF:

Respondent: He received this check. He, in a public meeting, he openly announced that this will be used to take care of the health of women and children in the district.
(ADMIN-TF 1)

According to the first managing director of TF (1980-97), the hospital referral scheme started (in the early 1980's) because the director of the (then new) Shri

Krishna Hospital offered to provide free care to TF patients:

> *And then he and (name of current Shri Krishna Chairperson) said we should start taking patients to them. So, I said, "will you give food?" "Yes free food." "And clothes for the days they are there?" And, um, "Your patients will be treated free."*
> *(ADMIN-TF 2)*

She expressed that Shri Krishna Hospital's interest in the referral scheme stemmed from its need for patients so that its medical school would receive accreditation:

> *I remember seven or eight instances when I was either called by the medical director there or he would come to my office... And they would literally beg of me to call up patients and send them somehow and fill up their beds because the medical inspection was coming. To be recognised as a medical college.*
> *(ADMIN-TF 2)*

Lower-level administrators and village health workers consistently described the referral services as a major goal/benefit of membership in TF:

> *Interviewer: Okay, those who have not paid the membership fees...*
> *TF VHW: For such people, uh, if they need emergency treatment we make them members – two minutes. Any time they come I make them a card for ten rupees.*
> *Interviewer: I see.*
> *VHW: In this, they give them fifty percent subsidy. Shri Krishna Hospital gives them 50% subsidy and for that we issue the card. And those who do not go with a card have to pay full fees.*
> *(PROV-TF 1)*

Administrators thought that the referral scheme was often seen as a major benefit of the TF scheme by beneficiaries, but described the scheme as having arisen with little planning or thought regarding financial sustainability:

> *Respondent: We recognise that any primary health care programme must have some link to a referral hospital... But it (the referral hospital) was never intended to be the focal point of the programme, which is where it went wrong. Now when that ten rupees was paid, they perceived it as "the minute I have paid this I have access to that hospital".*
> *(ADMIN-TF 1)*

<u>"No, this cannot be considered health insurance"</u>

Beneficiaries and administrators alike did not consider TF's hospital referral scheme to be "health insurance", but describe it as "charity" or "social service". Some beneficiaries stated that it was not an insurance scheme as membership fees were not

returned to those who did not make use of the inpatient services:[1]

> *Interviewer: Okay. So, can we call this (TF's referral scheme) insurance?*
> *Respondent: This is just social service. In this scheme, we have the hope that even if we don't have enough money at home, we will be provided with treatment at Shri Krishna Hospital. But if we don't use the hospital, will we get those ten rupees back? We won't.*
> *(FGD-TF 2)*

> *Interviewer: I am asking, can we call it insurance?*
> *Several respondents: No it cannot be called insurance.*
> *Respondent: It is collected every year. And once it is paid it is gone. We don't get anything from the scheme unless we use the hospital.*
> *(FGD-MIX 4)*

Other beneficiaries felt that the premium was too low for this to be considered insurance:

> *And if we want to call it insurance then the amount (of premium) will also rise. Ten rupees is not enough. It should be at least fifty rupees or one hundred rupees.*
> *(FGD-MIX 4)*

Scheme administrators readily acknowledged that the hospital referral scheme did not function like insurance. One commented that it could not be considered insurance as it was not self-sustaining, relying instead on external sources of funding:

> *Respondent: I don't think in the real sense you can call it (insurance), because it doesn't cover fully the cost of the organisation. We have to break even, you know, using other sources (such as Kaira Can) from that extra and develop possibilities.*
> *(ADMIN-TF 3)*

A village health worker explained that TF members did not purchase membership with an eye towards "securing" their health:

> *They feel it is for charity and service for charity. They do not have an understanding that this ten rupees is for securing them from a future health problem.*
> *(PROV-TF 1)*

Several administrators said that TF was unlike an insurance scheme in that membership was often purchased only after someone in the household fell seriously

---

[1] As presented in Appendix 11, insurance is commonly viewed as a type of savings mechanism, wherein premiums paid are returned after a pre-defined period of time, if the event that is insured

ill:

> *No, we cannot call it health insurance because all patients do not pay membership in advance. Whenever patients fall sick they may pay the membership fee... Right, in this way we ask them to pay the premium first and give them discount.*
> *(ADMIN-TF 4)*

Experience among those who have used TF's hospital referral scheme

Several sub-themes emerged from discussions with beneficiaries of their experiences with TF and its hospital referral scheme:

- TF's primary care, outpatient services;
- Degree of financial protection from hospital expenditures;
- Strengths and weaknesses of the referral scheme, as perceived by members;
- Strengths and weaknesses of the referral scheme, as perceived by administrators.

<u>TF's primary care, outpatient services</u>

The accessibility and quality of TF's outpatient preventive and primary care activities seemed to vary considerably from one village to another (largely dependent on the VHW). Many beneficiaries discussed having received reduced-cost medications from the VHW. In one FGD, men discussed the benefit received by tuberculosis (T.B.) patients through the scheme:

> *Respondent: If there is a T.B. patient, his medicines cost twenty thousand rupees in the private sector. And also it cannot cure T.B. one-hundred percent. Whereas if any T.B. patient joins this (TF), if he had paid membership fees, then he is provided treatment sitting in his home. And he is given tablets of very good quality... Many patients are cured from T.B.*
> *(FGD-MIX 3)*

People acknowledged that through the TF VHW, not only had they received drugs of good quality at reduced cost, but they were also able to access the drugs locally rather than having to travel to the nearest drug-shop or dispensary:

> *Respondent: It is much better if we can get medicine within the village rather than going for the same outside the village, when anything happens to us. Isn't it? I have to come to take medicine twice in a month. And she (the TF VHW) gives whenever we go. Even if she is cooking food she will*

---

against does not occur.

do it later and give me the medicines first.
(FGD-TF 1)

One scheme administrator had received similar feedback from TF members:

Interviewer: Is this scheme successful?
Respondent: Yes, they say that, "Sister, earlier there were no dispensaries in our village. We could not get medicines at primary level; we had to walk up to five kilometres for medicine. Instead of that we get medicine sitting at home. From this we all have benefited a lot. We cannot get treatment at such low rates at any other place."
(ADMIN-TF 4)

The main complaint that TF members had regarding outpatient services was that it was unfair that they had to make a co-payment:

Respondent: There is no benefit in that (TF scheme).
Respondent's husband: In fact, if we go to take medicine sometime, they will take two rupees. They will ask, "Have you brought two rupees?"
(BEN-TF 10)

<u>Degree of financial protection from hospital expenditures</u>

TF members who had used the Shri Krishna Hospital generally reported having received a sizeable discount, typically of fifty percent or more. Several people reported purchasing a card specifically to access the referral services only after someone in the household had fallen ill. In the following interview, the respondent reports purchasing a card after her son fell ill:

Respondent: He had become very sick. So, I took him over here (referring to the local government hospital). But, nothing happened. So, I got the card made at the dairy.
Interviewer: Hmm
Respondent: From the lady. Then, after getting the card made, I went to the hospital at Anand.
(BEN-TF 12)

While the referral scheme did seem to provide sizeable discount to those who used it, some who received a discount still went into debt paying for the hospitalisation:

Respondent: After deducting six hundred and seventy-five (the discount) we had paid some twenty-six hundred rupees, twenty-seven hundred rupees, including the fare for the matador (taxi) and all.
Interviewer: So then, how did you arrange for that money?
Respondent: We borrowed some from my brother-in-law. We also borrowed from my elder brother-in-law.
(BEN-TF 13)

Respondent: In that (the cost of hospitalisation at Shri Krishna Hospital) I got half discount.
Interviewer: Then, what about the remaining expense?
Respondent: We work at Patel's place. We borrow from him and pay the hospital.
(BEN-TF 6)

None of the respondents had been refused discount at Shri Krishna Hospital.

Strengths and weaknesses of the referral scheme, as perceived by members

While those who were hospitalised at Shri Krishna Hospital were generally impressed with the quality of service provided, there were many complaints about its location and the indirect costs of hospitalisation. In the following FGD, respondents discussed the difficulties in reaching Shri Krishna in case of emergency:

Respondent 1: It takes one hour, thirty minutes (from our village to Shri Krishna Hospital).
Interviewer: But at the time of emergency. Suppose someone meets with an accident, so can we can we reach so far?
Respondent 2: Then we have to take some private vehicle – then only we can reach.
(FGD-TF 1)

Some who were hospitalised at Shri Krishna Hospital were provided with free transportation from a TF sub-centre. Others, however, complained about the cost of transportation. Some also complained about the costs incurred by friends or family who travelled to Shri Krishna to visit, or care for, a patient:

Interviewer: You took the boy to Karamsad. Did you spend anything over there?
Respondent: There was an expense of travelling to and fro. We had to spend on the fare. We had to go two, three times, so. We used to go and come everyday to pick up lunch. We had given charity (i.e. paid the TF membership fee). So, they did not take the hospital charges.
(BEN-TF 7)

Other recipients of the discount at Shri Krishna Hospital reported having to pay for medicines prescribed from outside the hospital:

Respondent: There we had a bill of twenty-five hundred rupees, out of which we paid twelve hundred rupees. Isn't that a benefit? And the expenses of medicines are separate, of course that we had to pay. If we went to a private hospital we would have to pay the whole amount.
(FGD-TF 2)

As aforementioned, there were relatively few complaints about the quality of care at Shri Krishna Hospital. These included complaints that the hospital was too large and difficult to navigate – particularly for the illiterate – and that the doctors were young and inexperienced:

> *Respondent 1: If you want to reduce expenditure by taking treatment in such a hospital, then you have to take some pain.*
> *Respondent 2: And doctors give their responsibility to nurses or students. In Medical (Shri Krishna Hospital) the doctors are still learning.*
> *Respondent 2: Doctors are student doctors. After four attempts they can insert the needle.*
> *Respondent 3: If we suggest to a normal patient to get hospitalised in Medical (Shri Krishna) Hospital, then the very first thing he will say is that "Medical means to meet death"—*
> *Respondent 2: To go to die!*
> *(FGD-MIX 3)*

As referred to in this passage, Shri Krishna Hospital has, among some, gained the reputation of being a place where people go to die. As well, some respondents mentioned that Shri Krishna Hospital has the reputation of being a "poor man's hospital".

<u>Strengths and weaknesses of the referral scheme, as perceived by administrators</u>

All of TF's central administrators acknowledged that the scheme has encountered difficulties as a result of unsustainable financing. Firstly, they generally agreed that the membership fee should never have been fixed at ten rupees:

> *That is where it went wrong. When they, they take the membership of ten rupees per year, per family, which is nothing. Nothing. No first of all, when they fixed it as ten rupees per family, I think that was the first mistake.*
> *(ADMIN-TF 1)*

Secondly, administrators gave the impression that TF members have grown accustomed to substantial subsidies against the costs of hospitalisation at Shri Krishna Hospital:

> *We have so many chairmen and secretaries (of local dairy co-operatives) coming and battling away, saying that "we expect free treatment, why are we paying ten rupees". They just, it is embedded, it is in their heads, that this ten rupees is for free treatment. And we can't explain to them that ten rupees doesn't cover anything.*
> *(ADMIN-TF 1)*

...you know everything is not given free in the hospital. ...So they are trying to mobilise some donations and funds (possibly referring to user-fees) for the referral care. ...Now people have been used to getting treatment at a substantial subsidy. Suddenly changing this would be a little bit difficult.
(ADMIN-TF 3)

Finally, they expressed difficulties encountered by the scheme as a result of relying heavily upon a single, fixed, external source of funding:

And they (Khera Can) got some income tax rebate in that, I'm sure. Because they used to ask for letters (presumably, like a receipt). So their interest was that. And I asked for more money a couple of times so that the number of cases of freeship would increase. And the interest was not there. But every year we used to remind them and we got the check (for the amount of Rs. 500,000).
(ADMIN-TF 2)

As a result of mounting financial imbalances, TF's administrators said that it had become increasingly difficult for TF members to request, and prove their eligibility, for discount at Shri Krishna Hospital:

Respondent: ...whenever a TF patient comes there (to Shri Krishna Hospital), we make that person stand on his head to justify why he should be given free treatment. And we say, "How many animals have you got? How much land have you got? And based on that you've got to pay something." As a result, the patient is becoming exhausted by the whole process.
(ADMIN-TF 1)

They described how the discount provided to members was, just prior to the scheme's demise, determined based on the member's "economic condition":

No, not fifty percent. Initially... the discount was up to fifty percent, but then there was a reduction in the discount given depending on the funds received (from Kaira Can). It depends upon the economic condition; if the patient is very poor then he gets full discount (free treatment) and if the patient can pay we make him pay a little more, and explain to him that "you do not need it"... In this way I explain him and make him pay money.
(ADMIN-TF 4)

The current director of TF (ADMIN-TF 3) cited as its strengths: accountability among VHWs, a participatory approach, and a willingness to change. The director suggested that by having village dairy societies employ and supervise a local woman

to work as VHW, they had increased the accountability of the VHW "to her own people". In terms of community participation, administrators attempted to "involve the dairy cooperatives more and more... in the running of the programme" and to increase their sense of ownership. Finally, the director felt that continuous upgrading of the scheme, its goals and objectives, as well as the skills of its functionaries, was important to success:

> *...if you think that you have tackled one problem sufficiently then you may have to move over — to change the purpose.*
> *(ADMIN-TF 3)*

DISCUSSION

Summary of findings

Beneficiaries (particularly females) were often unaware of their membership in the scheme. In some cases, this can be attributed to the fact that membership fees were automatically deducted from the annual dairy co-operative bonus, and in others to the purchase of the membership by male household members. People closely associated the TF scheme with the local dairy co-operatives, often believing that membership in TF was restricted to those who deposit milk at the dairy. Beneficiaries generally lacked knowledge about the benefits of TF, but those who were able to cite benefits generally discussed free or reduced-cost medicines. Similarly, TF employees emphasised the organisation's primary and preventive care goals. Among beneficiaries, knowledge of the hospital referral scheme was quite limited, and those who were generally thought it involved a fifty percent discount at Shri Krishna Hospital. Lower-level administrators and village health workers described the hospital referral scheme as a major benefit of TF, while central administrators described the scheme as having arisen largely out of the need to increase bed occupancy rates at Shri Krishna Hospital. It is perceived by beneficiaries not as "health insurance", but as "charity" or "social service" insofar as the membership fee is very low (relative to benefits), can be purchased even after one falls seriously ill, and it is not returned if unused (as is often the case with Indian insurance schemes). Administrators agreed that it could not be considered a health

insurance scheme, due to its reliance on external funding, the failure of members to link (conceptually) membership with better health, and the fact that households were permitted to join even after someone had fallen sick.

Consistent with participants' (both beneficiaries and administrators) goals, TF seemed to increase access to low-cost, high-quality medicines among its members. TF members who used Shri Krishna Hospital reported receiving sizeable discounts. Nonetheless, some who received a discount still went into debt paying for the hospitalisation. Beneficiaries' had few complaints about the hospital referral scheme, most commonly related to the remote location of Shri Krishna Hospital or the quality or reputation of the hospital. Administrators acknowledged that the scheme has encountered difficulties as a result of unsustainable financing, and secondary to this, it became increasingly difficult for TF members to request, and prove their eligibility, for discount at the hospital. The current director of TF cited as its strengths: accountability among VHWs, a participatory approach, and a willingness to change.

Critique of methodology

Initially, guidelines for the interviews (Appendix 5) were based on inaccurate assumptions. At the commencement of the study, the PI was under the mistaken impression that:

- Members of TF would be aware of TF and their membership in it;
- The TF hospital referral scheme would be functioning like, and would be viewed by its members as, a health insurance scheme.

More often than not, people knew very little about TF. Those who were familiar with the scheme, whether as beneficiaries or administrators, denied that the scheme provided insurance. For this reason, as the study progressed, the interviews increasingly focused on very concrete events (such as specific hospitalisations, means used to pay for hospital care, and problems with care at Shri Krishna Hospital, etc.). However, during the course of the study, the interviews probably should have been changed even more to optimise the yield of the interviews. If

interviews had been analysed in parallel with data collection, later interviews could better have been tailored to the knowledge and experience of respondents. For example, less time would likely have been spent discussing respondents' knowledge (or lack thereof) of insurance and risk protection, and more time spent discussing people's expectations of TF and the benefits that TF is perceived to have provided.

Much of what beneficiaries had to say about TF was related to the organisation's primary health care activities at the village level. Some of what respondents said in this regard was presented above. These interviews were not, however, designed to assess the impact or quality of TF's primary health care services, as these are available to TF members and non-members alike, and therefore were not considered part of the "health insurance scheme". As such, findings related to TF's primary care activities must be regarded as incidental and interpreted with some caution.

Under the category of "providers" two village health workers and one field-worker were interviewed. While providers of TF's primary health care activities, they did not provide care under the hospital referral scheme. In fact, they would rightly be considered "administrators" in that one of their duties included selling/recording membership in the TF scheme. It was an error not to include any providers (doctors or nurses) at Shri Krishna Hospital who were not also part of TF's administration. The current managing director of TF, ADMIN-TF 3, was also a doctor at Shri Krishna Hospital at the time of these interviews.

Both the focus-group discussions and the in-depth interviews were semi-structured, i.e. the interviewers were working from a schedule of open-ended questions, and were somewhat directive in terms keeping discussion focussed around these topics. It is possible that this interviewing approach interfered with the emergence of some topics, such as the social consequences and determinants of CBHI. For example, if respondents were discussing things that were considered to be "off topic" by the interviewer, then the interviewer would often pose new questions to get them back on "topic". The link between health insurance and some of the potential

consequences, for example, conflict in families around medical decision-making, may not have been entirely clear to the interviewers (at least during the interview). It is possible that such subtle associations might better have been investigated using a less structured, more exploratory, approach to interviewing. Alternatively, additional training could have been provided to the interviewers to help them better recognise potentially relevant themes.

Discussion and interpretation of findings

Participants in TF (primarily members and administrators) had similar views on what the organisation should be providing overall, but their goals for the hospital referral scheme were discordant. Beneficiaries and providers alike viewed TF's primary care services, provided through VHWs, as the major benefit to its membership. TF members generally lacked awareness regarding the hospital referral scheme, but those who were familiar with it felt that it should be providing financial protection to member households (regardless of wealth). Interviews with scheme administrators revealed that the scheme "was never intended to be the focal point" of TF. In fact, the scheme was established with the primary goals of providing free care to *needy* TF patients and increasing bed occupancy rates (specifically for the purpose of accreditation) at Shri Krishna Hospital. Given these goals, along with the hospital's relatively small size, the relatively large number of TF members (approaching 900,000), and the limited (and fixed) financing available for the referral scheme, it is not surprising that TF and its functionaries were doing little to increase awareness of the scheme or scheme utilisation. Expectations for the scheme were highest among VHWs, who were probably not aware of the reasons for which it was started, nor of the scheme's financial problems.

Participants' experiences with, and observations about, the scheme also varied considerably. Members of TF who had used the scheme had some complaints, but were generally quite happy with the quality of care and the discount provided through TF. Scheme administrators (at least at the central level) felt that the scheme was working poorly. They thought that members' expectations were unreasonably

high given the low membership fee paid. They felt that the process of distributing benefits (based on means testing) was becoming increasingly difficult for patients. And they acknowledged that funding of the scheme was unsustainable, due to the fixed nature of both the membership fee and the annual donation from Khera Can. This difference in views regarding the functioning of the scheme is not surprising. Members who had used Shri Krishna Hospital had little grounds to complain, given that they had received care at subsidised cost in return for an insignificant premium. Administrators, on the other hand, were burdened with worries about increasing financial imbalances, and some pressure (not documented in this sub-study) from administrators at Shri Krishna Hospital to help cover the inpatient costs of TF members.

In hindsight, having learned how TF's hospital referral scheme operates, and how it was viewed by participants (beneficiaries and administrators alike), it seems almost inappropriate to have included it in a study intended to look at community-based health insurance schemes. Initially it appeared that TF was in fact functioning as health insurance. The TF scheme had been described in the published literature as an insurance (or "prepayment") scheme, first and foremost by Dave (1993) and later by Bennett, et al. (1998) and Lambo (1996). It was selected for this study based on the understanding that it involved prepayment (the Rs. 10 "membership fee") in return for coverage of 50% of the direct costs of hospitalisation. It was not until this research was well under way that the many design features that make this unlike an insurance scheme came to light. Firstly, the membership fee was extremely low (and was often halved or waived completely) and was never intended to cover, or even offset, the hospitalisation costs of members. Secondly, people could not count on receiving benefit at the time of hospitalisation; this was dependent upon an assessment of the member's wealth. Thirdly, it was not managed like a health insurance scheme. For example, people were allowed, and encouraged, to purchase a membership even after they had fallen sick. The membership fees were never really pooled, so in effect there was no risk-pooling or cross-subsidisation. However, as pointed out by Bennett (Personal Communication 2001) many CBHI

schemes are of this nature, "i.e. not quite what you thought they were once you have examined them closely...". It is likely that many of the CBHI schemes described in the published literature would in fact have some characteristics that do not comply with health insurance as it is strictly defined by economists.

This was, however, a unique opportunity to study a community-based financing scheme just as it was becoming clear to participants that it was unsustainable. At the time of the study, administrators had accepted that resources from the external donor were no longer (nor for years had been) sufficient to cover members' hospital expenses, and they appeared frustrated at not being able to increase the user fees paid by members. They were beginning to phase the hospital referral scheme out (as a first step, by restricting benefits to "poor" TF members) and to plan a new "insurance scheme" for the future (see Appendix 9). Most TF members familiar with the hospital referral scheme had not yet been informed about restrictions to the benefits package.

Probably the most valuable and generalisable lesson that can be learned from this study relates to relying heavily on external sources of funding. For TF, funding received from Kaira Can was problematic not because it was unreliable (an amount of Rs. 500,000 per annum was consistently paid) but because it was fixed, whereas TF's membership was rapidly growing as were the costs per person hospitalised. The heavy reliance on external resources likely impacted on non-financial aspects of the scheme as well. For example, members of TF were often unaware of the scheme and its activities and seemed to have little sense of ownership of the scheme (rather they thought of it as linked to the dairy co-operative). If TF members had been required to cover a greater portion (or all) of the costs of the scheme, they might have taken a greater interest in the scheme, and demanded more (information, education, services) in return for their contribution.

Given the hospital referral scheme's financial situation at the time of this study, it is very difficult to comment on other strengths or weaknesses of the scheme. For

example, one might criticise the scheme for: allowing people to purchase membership even after they had fallen ill: lack of communication with, or awareness among, its membership; and its affiliation with only one hospital in the district. In the context of an otherwise well-functioning insurance scheme, these factors could certainly have been problematic. In the case of TF, these may instead have been part of a conscious effort (on the part of administrators) to provide only for those in greatest need, to keep rates of hospital utilisation down, and thus to keep the scheme functioning for as long as possible.

Despite TF's aim of addressing the health problems of women and children, women appeared to be less informed of TF and its benefits than were men. This seems to have resulted from the selling of membership through the (predominantly male) dairy co-operatives, primarily to male household heads. Furthermore, there were no formal mechanisms to involve female members (VHWs aside) in planning or managing the scheme. TF might be able to improve communication with women by selling memberships directly to women, either by going door-to-door or by establishing links with local women's groups (for example, child-care co-operatives or crèches, or informal savings or credit groups). Alternatively, TF could try increasing awareness among females who already belong to TF by increasing the frequency of door-to-door visits or group presentations by local VHWs.

Social capital appears to have been of little importance in the functioning of TF's referral scheme. Traditions of collaboration and co-operation likely underlie the success of the dairy cooperative movement. However, "altruistic feelings between members of a neighbourhood or social class" (Besley 1995, p. 2165) and traditions of collective action do not seem to have increased participation in TF. Rather, households joined TF either because: (1) they had been told about the scheme, and membership was so inexpensive that they found it difficult to say no; (2) they were aware of the preventive and primary care services provided TF, and believed they were buying access to these; or (3) membership had been made mandatory by their local dairy society. Higher levels of social consciousness or solidarity had not

prevented adverse selection under the scheme. It seems likely that lack of community participation (or sense of ownership) in the scheme, rather than lack of social capital, resulted in adverse selection; people may have been purchasing membership only after falling ill because they viewed the scheme as an external social service rather than a community-based endeavour.

Although not explicitly mentioned by any of the respondents, lack of trust between the beneficiaries and health care provider, Shri Krishna Hospital, appeared to play an important role in the functioning of the scheme. Those who viewed Shri Krishna Hospital as a place where people went to die, or to be practised on by student doctors, may have been less likely to make use of the facility. Trust between members of the target population and the "insurer", Tribhuvandas Foundation (and its employees) also seemed to be somewhat important; it seems to be in those villages where the VHW is most active (and as a result, trusted by villagers) that people were most familiar with, and had more experience in using, Shri Krishna Hospital.

Conclusions and policy recommendations

This chapter highlights issues of importance to researchers, policy makers and community-based health insurance (or financing) scheme managers. Firstly, the participants in a scheme may have different goals for, and perceptions of, its functioning. Secondly, this research revealed that what initially seemed to be a CBHI scheme was in fact not functioning as insurance at all. This is likely to be the case with at least some other schemes described in the published literature as CBHI. This finding is a reminder that one must be very cautious in generalising the lessons learned from one scheme to another, as aspects of scheme design can be remarkably different. Thirdly, this study illustrates some of the difficulties that can arise from relying heavily on external sources of funding. Not only can this restrict the extent to which a scheme can grow and change, but it may also impact on beneficiaries' knowledge of, ownership of, and participation in, a scheme. It is difficult to draw other generalisable conclusions from this study given the TF hospital referral

scheme's unique design, and the fact that it was being phased out toward the end of this study. However, this sub-study does draw attention to some aspects of design and management that are likely to determine a scheme's impact, including affiliation with a single (versus multiple) providers and efforts to keep members informed and educated about the scheme and its benefits.

SECTION 3: THE SELF EMPLOYED WOMEN'S ASSOCIATION'S MEDICAL INSURANCE FUND

CHAPTER 8: IMPACT ON HOSPITAL UTILISATION AND EXPENDITURE: RESULTS OF A HOUSEHOLD SURVEY

SUMMARY

This chapter assesses the impact of the Self Employed Women's Association's (SEWA's) Medical Insurance Fund, Gujarat, in terms of inclusion of the poor, hospital utilisation and expenditure. Age-matched insured and non-insured women were compared using survey data (2000). Wealth was not a determinant of membership in the Fund; i.e. the poor were not excluded. Of 28 hospitalisations among Fund members over one year, only five were reimbursed. Membership in SEWA was not significantly associated with increased frequency of hospitalisation, but there was a significant association with lower costs of hospitalisation, net of reimbursement. Unlike many other CBHI schemes, the Fund has overcome barriers that exclude the poorest. This is due in part to nesting of the Fund within a larger development organisation. Utilisation of the Fund, and thus impact on hospital utilisation and expenditure, was minimal. This may relate to a lack of awareness of benefits among Fund members, or costs and difficulties associated with submitting an insurance claim.

INTRODUCTION

SEWA's Integrated Insurance Scheme has been providing life, asset and health (under the Medical Insurance Fund) insurance to members of SEWA Union since 1992 (see Chapter 4). Only women between the ages of 18 and 58 years are eligible to join the IIS. In order to join, they can either pay an annual premium of Rs. 72.5 – Rs. 30 of which is earmarked for the Fund – or make a fixed deposit of Rs. 700. Under the Fund, they are eligible for reimbursement for hospital expenditures to a maximum of Rs. 1,200 yearly. Members are able to use hospital facilities of their choice; public, private-for-profit, or private-non-profit. In 1999-2000 (when this study was carried out), SEWA IIS had 23,214 members, out of almost 150,000 SEWA Union members in Gujarat.

The purpose of this chapter is to assess the "economic impact" of the Fund. The data for this analysis were collected from households in Kheda District using an interview-administered questionnaire. Impact is assessed in terms of: (1) population reach of the Fund, particularly inclusion of the poor (addresses Thesis Objective 3); (2) hospital utilisation during the one-year period preceding the survey (Objective 1); and (3) annual cost of hospitalisations, conditional on reporting one or more hospitalisations (Objective 2).

It is hypothesised that the Fund will:

1/ Include the very poor. SEWA Union organises poor women working in the informal-sector, and seems to target quite effectively. By restricting membership in the IIS to members of SEWA trade union, the IIS is likely to include women who are, on average, poorer than the general population.

2/ Increase the frequency of hospitalisation among the insured, by removing some component (i.e. maximum of Rs. 1,200) of the financial barrier to seeking inpatient care. Note that impact on utilisation is likely to be lessened by the fact that women must first pay out-of-pocket – which often means borrowing money, selling valuables, performing extra work, etc. – before seeking reimbursement from SEWA.

3/ Decrease the total annual hospital costs per person hospitalised. This assumes that: among insured women, some hospitalisations will be caused by conditions that are covered by the Fund; women will actually seek reimbursement when they have been hospitalised for a covered condition; and the Fund will reimburse women for some portion of the claims that are submitted.

METHODOLOGY

Data collection and analysis

A cross-sectional cohort study design was chosen. Respondents were interviewed at only one point in time, and the number of SEWA and non-insured households (the two "cohorts") were fixed in advance. Two-stage, random cluster sampling was used. The primary sampling units (PSUs) were villages. Twenty villages were selected randomly (using random-number tables); the probability of selection was equal for all villages regardless of size. The secondary sampling units were households. Within each village, insured were randomly selected from lists compiled by SEWA and non-insured were randomly selected from census or voting lists. In ten villages, 14 SEWA households and 14 non-insured households were sampled, and in ten villages 14 SEWA households and 28 non-insured households were sampled (20 villages x 14 SEWA households = 280 SEWA households; 10 villages x 14 controls + 10 villages x 28 controls = 420 controls; therefore 700 households are included in this analysis).[1]

See Chapter 4 for a description of data entry, cleaning and analysis. The analyses in this chapter are restricted to women of ages 18 to 58 years, as only they are eligible for participation in the SEWA's Medical Insurance Fund.

Models

(1) What was the population reach of the Fund?

The model for looking at socio-demographic determinants of membership is a *logit model*, written as follows:

$$\ln(p/(1-p)) = X\beta + \varepsilon \qquad \textbf{(Equation 1)}$$

---

[1] The latter villages, in which there were twice as many control households (28) as SEWA households (14) were the ten joint villages. In these villages, 14 SEWA-IIS households, 14 TF households (which are not included in this analysis) and 28 non-insured "control" households were interviewed.

where p is the probability of being a member in the Fund, given female gender and age 18 to 58 years, and X represents a set of independent variables that are hypothesised to affect membership in community based schemes.

(2) Did the Fund impact on hospital utilisation over the last one year?

The model is a *logit model*. It estimates the probability of an individual being hospitalised during the one-year period preceding the interview. It can be written as follows:

$$\ln(p/(1-p)) = X\beta + \varepsilon \qquad \textbf{(Equation 2)}$$

where p is the probability of hospitalisation, given female gender and age 18 to 58 years, and X represents a set of independent variables that are hypothesised to affect individual patterns of hospital utilisation.

(3) Did the Fund impact on net annual hospital costs per person hospitalised?

The model is a log-linear model that estimates the net costs incurred for all hospitalisations (over one year), conditional on positive hospitalisation. Costs were net of reimbursement by insurance schemes, including the Fund. The model can be written:

$$\ln Y = X\beta + \varepsilon \qquad \textbf{(Equation 3)}$$

where Y is the net annual hospital costs per person, given female gender, age 18 to 58 years, and one or more hospitalisation over one year, and X represents a set of

independent variables that are hypothesised to affect individual patterns of hospital expenditure.[2]

Equations 2 and 3 are equivalent to the "two-part" (utilisation and expenditure) model developed as part of the Rand Health Insurance Experiment (Duan, et al. 1982, Manning, et al. 1987), and used more recently by Yip and Berman (2001) in their study of the impact of Egypt's School Health Insurance Programme.

Independent variables

Table 8.1 describes the independent variables included in the analyses. A number of household-level, demand side factors were included. Independent of insurance, wealth was hypothesised to be positively associated with rates of hospitalisation and with net costs of hospitalisation. As a proxy for wealth, the economic status index (ESI) was constructed based on household assets, allowing the weights of these assets to be determined by the statistical procedure of principal components (Filmer and Pritchett 2001). The other household-level variables controlled for were religion, caste and number of people living in the household.

A number of individual-level, demand side variables were controlled for. Age, literacy, marital status, and primary occupation were controlled for in all models. For models 2 and 3, individuals were classified as SEWA insured, non-insured but living in a household with at least one other insured person, and non-insured and not living with someone insured by SEWA. It was not uncommon for some adult women in a household to join the scheme while others abstained. It was hypothesised that uninsured women living in the same households may also have had increased rates of utilisation, due to the information and education provided by SEWA, and due to the positive wealth effect of having insured people in the household. In model 1, the number of acute illness episodes reported during the last

---

2 In the log-linear model, the coefficient β for a continuous independent variable gives the relative change in the mean value of Y for a unit change in X. In order to obtain the relative change in mean Y for a dummy variable, one must take the antilog (to base e) of the estimated dummy coefficient and subtract it from 1 (Gujarati 1995, p. 525).

30 days was controlled for as a proxy for general level of health (unfortunately, data were not available as to whether or not individuals had chronic disease(s)). It was hypothesised that those in poorer health were more likely to join the Fund.

Table 8.1: Independent variables included in the regression analyses

Variables	Model 1	2	3
Characteristics of the household			
ESI1 to ESI5 = quintiles of economic status index, this is an approximation of household wealth based on assets, ESI1 being the poorest and ESI 5 the wealthiest (these variables are exhaustive, ESI1 is left out of the models)	✓	✓	✓
HINDU = 1 if Hindu religion, 0 if Muslim or Christian	✓	✓	✓
BKWDCASTE = 1 if scheduled caste, scheduled tribe and other 'backward castes', 0 if castes that have *not* been identified by government as 'backward' (Bhakshipanch, Brahmin, Patel, Shah, etc.)	✓	✓	✓
HHSIZE1 = 1 if 1 to 2 people in HH HHSIZE2 = 1 if 3 to 4 people in HH HHSIZE3 = 1 if 5 to 9 people in HH HHSIZE4 = 1 if >=10 people in HH (these variables are exhaustive, HHSIZE1 is left out of the models)	✓	✓	✓
Characteristics of the individual			
NON-INS = 1 if not insured by SEWA and not living with someone who is insured by SEWA SEWA-INS = 1 if covered by the IIS SEWA-FAM = 1 if non-insured but living in the same household as someone insured by SEWA (these variables are exhaustive, NON-INS is left out of the models)		✓	✓
AGE1 = 1 if 18 or 29 years of age AGE2 = 1 if 30 to 39 years of age AGE3 = 1 if >40 years of age (these variables are exhaustive, AGE1 is left out of the models)	✓	✓	✓
LITERATE = 1 if person can read and write a simple letter, 0 if not	✓	✓	✓
MARRIED = 1 if married, 0 if never married, widower, divorced, separated, or other	✓	✓	✓
DAILYWAGE = 1 if unskilled worker being paid daily wage (agricultural or factory worker) DOMESTIC = 1 if primary occupation is domestic work/housework OTHERWORK = 1 if other than unskilled daily wages or domestic work (these variables are exhaustive, OTHERWORK is left out of the models)	✓	✓	✓
NUMBACUTE = number of acute illness episodes reported during the last 30 days (ranged from 0 to 3), intended to control for general level of health. Included as a proxy, based on the hypothesis that those who are more sickly will have experienced illness episodes within the last month. This variable was included only in model 1 as it was collinear with SEWA-INS, the independent variable of interest in Models 2 and 3.	✓		
Characteristics of the hospitalisation			
PUBLIC = 1 if government or ESIS hospital PRIVATE = 1 if private for-profit hospital NONPROF = 1 if private-non-profit hospital (these variables are exhaustive, PUBLIC is left out of the models)			✓
SHORT = 1 if 0 to 3 days hospitalised MEDIUM = 1 if 4 to 7 days hospitalised LONG = 1 if >7 days hospitalised (these variables are exhaustive, SHORT is left out of the models)			✓
OBS/GYN = 1 if cause of hospitalisation was pregnancy, delivery or family planning, 0 if other			✓

Model 3 only controls for characteristics of the hospitalisation. Use of private-for-profit and private-non-profit hospitals (generally perceived to be of higher quality) was hypothesised to be associated with higher total of hospitalisation than use of government facilities. Women who reported longer episodes of hospitalisation were expected to have experienced higher total costs. Finally, it was anticipated that women hospitalised for pregnancy, delivery and family planning would generally have experienced an uncomplicated hospitalisation, without major surgical procedures, and for this reason would have lower total costs.

RESULTS

In total 242 SEWA households and 381 control households were included in the analyses (some households were dropped from the analyses due to misclassification). In the 242 SEWA households, there were 270 members and 125 women 18 to 58 years of age who were non-members. In the 381 control households, there were 607 women 18 to 58 years of age.

The demographic data (before controlling for any potential confounders) suggest that the SEWA-insured were of lower socio-economic status than the non-insured in control households (Table 8.2). They ranked lower on the ESI. They were almost twice as likely as the non-insured to be of a "backward caste" and tended to be from smaller households. They were older (mean 40.1 versus 35.0 years), less likely to be literate, more likely to report primary occupation as unskilled labour for daily wages, and almost 60% more likely to have reported illness within the last 30 days (a proxy for frequency of chronic disease).

In the SEWA households interviewed, more than two thirds of women 18 to 58 years of age were enrolled in the Fund (Table 8.2). The SEWA-insured, in comparison to the non-insured living with SEWA members, were older (mean 40.1 versus 26.3 years), less likely to be literate, more than twice as likely to report that

primary occupation was unskilled labour for daily wages, and more than four times as likely to have reported illness within the last 30 days.

Table 8.2: Sample characteristics

Variable	SEWA-INS	SEWA-FAM	NON-INS
Number of households	242		381
Number of individuals	270	125	607
Mean ESI	0.29		0.84
Cat: Quintiles of ESI			
% in 1st quintile	13.1		15.8
% in 2nd quintile	23.9		13.8
% in 3nd quintile	30.1		22.0
% in 4nd quintile	13.8		18.9
% in 5nd quintile	19.1		29.5
Religion			
% Hindu	80.7		79.3
% Muslim	7.4		18.5
% Christian	12.0		2.1
% ST, SC, or other "backward" caste	54.0		29.4
Mean number of hh members	5.8		7.0
Cat: Number of hh members			
% 1-2	6.1		3.5
% 3-4	30.4		20.8
% 5-9	53.0		52.6
>% =10	10.5		23.1
Mean age	40.1	26.3	35.0
Cat: Age			
% 10-<20	0.1	12.1	6.3
% 20-<30	15.9	61.4	34.0
% 30-<40	29.7	18.2	21.2
% 40+	54.3	8.3	38.4
% Literate	41.5	55.5	51.6
% Married	79.3	74.5	79.8
% Working for daily wages	25.0	11.4	16.9
% Doing domestic work	56.7	70.2	71.5
Frequency of illness/person/30 days	0.194	0.047	0.123

Among the SEWA-insured who experienced hospitalisations during the one-year recall period, the frequency of reimbursement by SEWA was low. There were 28 hospitalisations among Fund members, and *only 5* of these hospitalisations (18%) were reimbursed by SEWA. For the five members who were reimbursed, the costs before reimbursement were Rs. 4,431 and after reimbursement Rs. 3,434.

Table 8.3: Hospital utilization and expenditure per hospitalization by SEWA coverage

	SEWA-INS (n=270)		SEWA-FAM (n=125)		NON-INS (n=607)
Hospital utilisation					
Total hospitalisations reported	28		12		56
Women with >0 hospitalisations, 1 year	26		12		51
Probability of hospitalisation	0.095	NS	0.105	NS	0.063
Hospital costs					
Total hospitalisations reimbursed	5		0		0
Women with >0 reimbursement	5		0		0
Mean total hospital costs, 1 year	2,425	NS	3,532	NS	4,977

1 US$ is approximately equal to 44 Rs.
T-tests were performed to compare rates/expenditures of the SEWA-INS with NON-INS, and the SEWA-FAM with NON-INS.
* 10% (borderline) significance level; ** 5% significance level; *** 1% significance level

Before controlling for socio-demographic variables, SEWA-insured were 1.5 times more likely than non-insured women in control households to have been hospitalised (0.095 versus 0.063; Table 8.3). Among those hospitalised, the net annual hospital costs for the SEWA-insured were less than half those of the non-insured women in control households. (Clearly, this difference cannot be attributed to the Fund, given that even among the very few people reimbursed, the mean reimbursement amounted to less than one-quarter.)

Regression analyses

Controlling for other socio-demographic variables, only older age and higher frequency of illness episodes within the last month were significantly associated with membership in the Fund (Table 8.4). Results were the same for the "full" and "best fit" models. Wealth, proxied by quintiles of ESI, was not significantly

associated with membership in the Fund; there was a trend suggestive of higher levels of membership amongst the 2nd and 3rd income quintiles (compared with the 1st, or poorest, quintile), but this did not reach significance at the 95% level. Women of ages 30 years and above were 3.4 times as likely to join the Fund as those of 18 to 20 years (full model). Each additional illness reported within the last month (acute illnesses as well as exacerbations of chronic disease) was associated with a 70% (full model) to 80% (best fit) increase in the probability of joining the Fund.

Neither membership in the Fund, nor any of the socio-demographic variables tested, were significantly associated with the probability of having been hospitalised (Table 8.5). Again, results were similar for the full and best fitting models. There was a trend suggestive of higher rates of hospitalisation among Fund members (and even women living in the same households as Fund members) but this association was not significant. There were also trends towards lower frequency of hospitalisation among higher ESI quintiles, and lower frequency of hospitalisation with increasing age, but again these were not significant at the 95% level.

Table 8.4: Regression results for Equation 1, the odds of being SEWA-INS based on socio-demographic variables: logit model (n=987)

	Odds ratios (t-statistics) Full Model			Odds ratios (t-statistics) Best Fit	
ESI2	**1.906** (2.060)	*	ESI2	**1.837** (1.880)	*
ESI3	**1.922** (1.280)		ESI3	**1.793** (1.090)	
ESI4	**0.961** (-0.150)		ESI4	**0.988** (-0.030)	
ESI5	**1.300** (0.700)		ESI5	**1.287** (0.650)	
HINDU	**0.720** (-0.550)		HINDU	- -	
BKWDCASTE	**2.450** (2.000)	*	BKWDCASTE	**2.563** (1.910)	*
HHSIZE2	**0.821** (-0.320)		HHSIZE (cont)	**0.940** (-1.220)	
HHSIZE3	**0.631** (-1.120)				
HHSIZE4	**0.454** (-1.100)				
AGE2	**3.356** (4.840)	***	AGE (cont)	**1.040** (6.220)	***
AGE3	**3.423** (4.930)	***			
LITERATE	**1.166** (0.410)		LITERATE	**1.166** (0.470)	
MARRIED	**0.970** (-0.160)		MARRIED	- -	
DAILYWAGE	**0.672** (-1.720)		DAILYWAGE	**0.888** (-0.470)	
DOMESTIC	**0.601** (-1.640)		DOMESTIC	**0.675** (-1.390)	
NUMBACUTE	**1.695** (2.690)	**	NUMBACUTE	**1.799** (3.090)	***
Adjusted Wald Test, F =	**55**			**97**	
P-value =	**0.003**			**0.000**	
Percent of predictions correct =	**72.8%**			**72.9%**	
Ramsey RESET Test, F =	**0.29**		Ramsey RESET Test, F =	**0.51**	
P-value =	**0.833**		P-value =	**0.681**	

* 10% (borderline) significance level; ** 5% significance level; *** 1% significance level

Table 8.5: Regression results for Equation 2, the probability of being hospitalised within the last year: logit model (n=987)

	Odds ratios (t-statistics) Full Model		Odds ratios (t-statistics) Best Fit	
SEWA-INS	**2.042**		**1.668**	
	(1.220)		(0.960)	
SEWA-FAM	**1.639**		**1.999**	
	(1.000)		(1.640)	
ESI2	**0.564**		**0.522**	
	(-1.370)		(-1.540)	
ESI3	**0.801**		**0.762**	
	(-0.460)		(-0.540)	
ESI4	**0.798**		**0.690**	
	(-0.540)		(-0.890)	
ESI5	**0.275**	*	**0.253**	*
	(-1.960)		(-1.940)	
HINDU	**1.578**		**1.638**	
	(1.100)		(1.100)	
BKWDCASTE	**0.785**		-	
	(-0.700)		-	
HHSIZE2	**2.328**		**2.729**	
	(1.020)		(1.200)	
HHSIZE3	**1.687**		**2.307**	
	(0.680)		(1.010)	
HHSIZE4	**0.846**		**1.233**	
	(-0.190)		(0.240)	
AGE2	**0.450**		-	
	(-1.270)		-	
AGE3	**0.386**	*	-	
	(-1.990)		-	
LITERATE	**0.585**		**0.766**	
	(-1.190)		(-0.620)	
MARRIED	**1.522**		**1.453**	
	(0.670)		(0.750)	
DAILYWAGE	**0.733**		**0.719**	
	(-0.470)		(-0.520)	
DOMESTIC	**1.254**		**1.499**	
	(0.390)		(0.690)	
Adjusted Wald Test, F =	**36**		**21**	
P-value =	**0.027**		**0.002**	
Percent of predictions correct =	**91.6%**		**91.6%**	
Ramsey RESET Test, F =	**0.38**		**0.61**	
P-value =	**0.769**		**0.617**	

* 10% (borderline) significance level; ** 5% significance level;
*** 1% significance level

Results of the model of annual hospital costs per person hospitalised varied somewhat with changes in the variables included and the removal of outliers (Table

8.6). In some models, hospital expenditures were significantly lower among the SEWA insured (Models 3B, 3C and 3D). Interestingly, this finding *was not* sensitive to removal from the model of the five cases of hospitalisation that were reimbursed; in model 3D, being insured by SEWA was associated with a decrease in hospital expenditures of 54% (β = -0.789) even though the five reimbursed hospitalisations were removed from the calculations. Consistent in the various iterations of Model 3 were the findings that hospital expenditures: varied directly (and significantly) with quintiles of ESI; were significantly higher for private versus public hospitalisations; and were significantly lower for pregnancy, delivery or family planning than for other causes. The Ramsey RESET test, significant for all iterations of Model 3, suggests that none of the specifications are robust. This is most likely due to the small number of observations, which range from 70 to 81, depending on the variables included. Thus, the significant associations found in this model can be treated as artefact.

DISCUSSION

Summary of findings

Wealth was not found to be a determinant of membership in the Fund; i.e. the poor were not excluded. However, women of older age and higher frequency of illness (within the 30 days preceding interviews) were more likely to join the scheme. Of 28 hospitalisations among Fund members over one year, only five were reimbursed. Membership in SEWA was not significantly associated with increased frequency of hospitalisation, and due to data limitations, no conclusions can be made about the association with costs of hospitalisation, net of reimbursement.

Critique of methodology

Perhaps the greatest limitation of this study was its small sample size. The study shows trends towards higher rates of utilisation, and lower spending per episode of hospitalisation, among SEWA members (significant in some models). Had the study been larger, these associations may have been statistically significant (or in the case

of spending, consistently statistically significant). Insufficient sample size arose in part because there were fewer Fund members in "insured" households than had been expected, and because of the problem of misclassification of households, i.e. households were identified as including a Fund member when in fact they did not. Such households were dropped from the analysis without replacement.

Table 8.6: Regression results for Equation 3, the average total cost of hospitalisation per person hospitalised: log-linear model

	Odds Ratios (t-statistics)							
	3A Full Model n=77		3B Best Fit n=81		3C Outliers removed n=74		3D Reimbursed removed n=70	
SEWA-INS	**-0.630**		**-1.744**	**	**-0.812**	**	**-0.789**	**
	(-1.190)		(-2.350)		(-2.290)		(-2.140)	
SEWA-FAM	**0.560**		**0.289**		**0.000**		**-0.048**	
	(0.900)		(0.300)		(0.000)		(-0.100)	
ESI2	**1.662**	**	**1.908**	***	**1.356**	***	**1.353**	***
	(2.270)		(2.930)		(4.000)		(3.960)	
ESI3	**1.779**	**	**1.237**	***	**0.550**	*	**0.551**	
	(2.800)		(2.900)		(1.740)		(1.690)	
ESI4	**2.171**	**	**1.273**	***	**1.235**	**	**1.234**	**
	(2.810)		(3.180)		(2.640)		(2.630)	
ESI5	**2.443**	**	**2.356**	**	**1.266**	**	**1.345**	**
	(2.720)		(2.580)		(2.480)		(2.620)	
HINDU	**3.630**	***	-		-		-	
	(3.300)		-		-		-	
BKWDCASTE	**0.465**		**1.103**	**	**0.270**		**0.268**	
	(1.700)		(2.120)		(1.560)		(1.450)	
HHSIZE2	**-1.301**	***	-		-		-	
	(-3.440)		-		-		-	
HHSIZE3	**-1.610**	***	-		-		-	
	(-3.500)		-		-		-	
HHSIZE4	**-0.581**		-		-		-	
	(-1.490)		-		-		-	
AGE2	**-0.246**		-		-		-	
	(-0.570)		-		-		-	
AGE3	**0.403**		-		-		-	
	(1.090)		-		-		-	
LITERATE	**0.152**		-		-		-	
	(0.420)		-		-		-	
MARRIED	**2.861**	**	**0.659**		**-0.019**		**-0.004**	
	(2.620)		(0.560)		(-0.020)		(0.000)	
DAILYWAGE	**0.885**		**0.412**		**-0.223**		**-0.247**	
	(0.950)		(0.430)		(-0.450)		(-0.510)	
DOMESTIC	**0.793**		**0.674**		**0.325**		**0.345**	
	(0.980)		(0.830)		(0.510)		(0.540)	
PRIVATE	**4.306**	***	**4.453**	***	**2.600**	***	**2.601**	***
	(10.710)		(5.140)		(8.220)		(8.300)	
NONPROF	**3.115**	*	**3.058**	*	**1.763**	**	**1.737**	
	(2.080)		(2.080)		(2.290)		(2.070)	
MEDIUM (4 to 7 days)	**0.206**		**1.092**	*	**0.249**		**0.242**	
	(0.420)		(1.810)		(0.740)		(0.690)	
LONG (> 7 days)	**0.716**		**1.433**	*	**1.445**	***	**1.453**	***
	(1.370)		(1.750)		(4.800)		(4.640)	
OBS/GYN	**-1.379**	**	**-1.357**	***	**-1.312**	***	**-1.334**	***
	(-2.430)		(-4.170)		(-4.190)		(-3.940)	
Adjusted Wald Test, F =	**95**		**47**		**8**		**7**	
P-value =	**0.081**		**0.001**		**0.031**		**0.069**	
R-squared =	**79.32%**		**66.19%**		**67.24%**		**67.76%**	
Ramsey RESET Test, F =	**15.22**		**8.93**		**4.52**		**4.40**	
P-value =	**0.000**		**0.001**		**0.018**		**0.021**	

* 10% (borderline) significance level; ** 5% significance level; *** 1% significance level

It is difficult to say how accurately the Economic Status Index (ESI) reflected household "wealth". A very similar index developed for Indian survey data (Filmer and Pritchett 2001) was closely correlated with State Domestic Product (SDP) and poverty rates data. Using data from Indonesia, Pakistan and Nepal, they also showed their asset index to be consistent with consumption expenditures. Comparison of the ESI used in this sub-study the interviewers' assessments of wealth and with daily household expenditures on food suggested strong correlation (see Appendix 3). Nonetheless, it is possible that some of the "negative results" in this study were due to insufficiently controlling for wealth. For example, if, as hypothesised, SEWA membership were inversely associated with wealth, and wealth were directly associated with hospital spending, then failure to control fully for wealth could result in an observed estimate of effect that is diluted towards the null. Although not presented in this chapter, all of the models were run using two other indicators of wealth (interviewers' assessments and daily per capita food consumption) with no major changes in the results.

Several questions were not included in the household questionnaire that, in retrospect, should have been included. For example, it is common in such analyses to control for state of health or the presence of chronic disease, but these data were not available from the questionnaire. It would have been both interesting and informative to know, among the SEWA-insured women who had undergone hospitalisation, the number who had submitted claims but were still awaiting a response or had been unsuccessful in their claim. Finally, for purposes of triangulation (i.e. verifying the ESI), data could have been collected on household consumption expenditures, although this would certainly have been time consuming and expensive.

It is possible, though unlikely, that observation bias impacted on the study results. Interviewer bias may have occurred if investigators elicited or interpreted information differently among the insured versus the non-insured. It was impossible to blind interviewers to the insurance status of the household. Certainly the

interviewers did come to make generalisations about households, for example, that SEWA households tended to be very poor. Thus, there may have been some bias in how they were recording household asset information. It is also possible that the interviewers probed more carefully into health care seeking and spending among poorer households. Study subjects may also have reported events in a non-comparable manner (recall bias). For example, SEWA members may have been more likely to recall episodes of hospitalisation, or to remember how much they paid for hospitalisation, as they were sensitised to the subject by the information, education and communication from SEWA (or they had spent months collecting and processing the related paperwork). Perhaps the lower hospital expenditures reported by the SEWA insured is a function of more accurate recall (i.e. a lower probability of accidentally inflating the figures).

As was discussed in Chapter 5, the test-retest reliability of the survey questions was variable (see Appendix 8 for analysis of re-interviews). Questions regarding characteristics of the family and specific individuals, and the type and cost of hospitalisation, elicited reliable responses. Other questions, including those regarding household assets and the duration of hospitalisation, often yielded responses different from the original at the time of re-interview.

Discussion and interpretation of findings

Unlike many other CBHI schemes, SEWA did not exclude the very poor. What design factors facilitated inclusion of the poor in the SEWA scheme? The fact that the IIS is nested within the larger development organisation (the SEWA Union) has undoubtedly been an important factor. Bennett, et al. (1998) hypothesise that, "communities may be more willing to participate actively in health insurance schemes (initiated by NGOs involved in broad community development activities) since they consider that their priority needs – for a stable income, for instance – are also being addressed" (p. 20). Other factors that likely facilitated inclusion of the poor include: bundling of health insurance with other services (life and asset insurance); an affordable premium; village-level representatives who were

themselves poor, self-employed women: and efforts to serve geographically isolated villages.

The positive associations between older age and higher frequency of illness and membership in SEWA's insurance scheme suggest that adverse selection may have been occurring. Bennett, et al. (1998), in their review of community-based health insurance schemes, found that adverse selection affected schemes that cover hospital inpatient care, in particular. The fact that membership in the SEWA scheme was voluntary and individual may have enabled adverse selection. However, the waiting period after joining and the exclusion of pre-existing or chronic diseases were meant to limit adverse selection. It is likely that adverse selection was to some extent encouraged by scheme functionaries, insofar as poor households with limited expendable income may have been encouraged to insure the household member who was most likely to fall ill. Furthermore, the scheme does fall somewhere on the spectrum between health-insurer (strictly defined) and "social service" in that the scheme aims to improve access to hospital care among the poor, and to protect the poor from the costs of hospitalisation. As such, adverse selection may be viewed in a positive light.

No significant association between membership in SEWA's Medical Insurance Fund and frequency of hospitalisation was found, although there was a non-significant trend towards higher rates of hospitalisation among SEWA members. Table 3.1 (Chapter 3) summarises the results of other studies that have examined the impact of CBHI schemes on rates of hospitalisation. Almost all other studies found that community-based insurance that covers the costs of hospitalisation increases hospital utilisation. This may reflect a publication bias, wherein the most successful schemes are the most likely to have been studied and reported on. If indeed these findings are valid, then the question arises, "why has the SEWA scheme not resulted in significantly increased rates of utilisation?" The scheme's failure to impact on hospital utilisation is likely to be attributable to the factors that prevented women from using the Fund (i.e. the factors that prevented women from submitting

insurance claims). Data from qualitative interviews (Chapter 10) suggest that members of the Fund were sometimes unaware of their membership, or the benefits of the scheme. Furthermore, among those who did know about the scheme, rates of reimbursement may have been considered low (as the Fund does not cover transportation, bribes, etc.), or the costs of submitting a claim (for example, opportunity cost of missed work) may have been perceived to be high.

The number of observations were insufficient to make any conclusions about associations between SEWA membership and costs of hospitalisation. Very few other studies have looked at whether CBHI has actually resulted in decreased out-of-pocket expenditures (see Table 3.1). In a small study of four mutuals in Senegal (carried out in 2000), Jütting (2001) found that, "being a member reduces the expenditure for hospitalisation by 48% in comparison to non-members holding all other variables constant." Other studies (Schneider and Diop 2001; Diop, et al. 1995) found decreased spending (both outpatient and inpatient) per illness episode.

Conclusions and policy implications

Members of the Fund were similar to the general population in terms of wealth. The Fund's success at including the poor was probably due to its being nested within a development organisation, committed to serving poor, self-employed women. Members of the Fund were older and sicker than the general population, suggestive either of adverse selection or effective targeting of those who were most in need of inpatient care. In either case, the Fund can facilitate risk-pooling by broadening its membership to include younger and healthier individuals. If it is decided to try to deter adverse selection under the scheme, additional methods that could be used include: (1) making the household, or even the village, the unit of membership and enforcing this rule strictly; (2) stipulating that if a village is to be allowed to enter a scheme a certain proportion of households in the village must join; and (3) making the scheme compulsory (Bennett, et al. 1998, p. 56).

Relatively few of those who were members of the Fund and were hospitalised were reimbursed through the scheme. This suggests either that women were not submitting claims even when they might have been eligible for reimbursement, or that the claims were not eligible for reimbursement (for example, if the hospitalisation resulted from one of the chronic conditions excluded from reimbursement). Given the low rate of utilisation of the Fund by those who were members, it is not surprising that the Fund had no discernible impact in terms of health care utilisation. Rates of Fund utilisation may be increased by providing members with information and education around their membership in the Fund, and its benefits, and by making the process of claims submission easier, faster and less expensive.

CHAPTER 9: EVIDENCE FROM 1,930 INSURANCE CLAIMS

SUMMARY

This chapter will assess the Self Employed Women's Association's Medical Insurance Fund in Gujarat based on submitted claims. The scheme is assessed in terms of: (1) insurance coverage according to income groups; (2) protection of claimants from expenditures on hospitalisation; (3) lag time between discharge from hospital and reimbursement; and (4) frequency of use of the insurance scheme. All 1,930 claims submitted over six years were analysed.

Eleven percent of claims were rejected (N = 1,927). The mean household income of SEWA claimants was significantly lower than the mean income of the general population, and the percentage of households living below the poverty line was similar among claimants compared with the general population. Of claims reimbursed (N = 1,712), 47% were fully reimbursed and the remaining 53% at a mean rate of 55.6%. Reimbursement more than halved the percentage of catastrophic hospitalisations (>10% of annual household income) and hospitalisations that would have resulted in impoverishment. On average, time from discharge to reimbursement was four months. Frequency of claims submission (18.0/1,000 members per year) was low, roughly 22 to 37% of the estimated frequency of hospitalisation.

The findings have important implications for policy concerning CBHI schemes in India and elsewhere. The study shows that CBHI can effectively protect poor households against the uncertain risk of medical expenses, and can be implemented in areas where institutional capacity is too weak to organise nation-wide risk-pooling. CBHI can include the poor, including individuals and households below the poverty line. There is a trade-off between reducing financial risk and protecting against catastrophic care: an insurance package with a cap on benefits limits the financial risk borne by the scheme, but it also limits the extent of risk-pooling and cross-subsidisation provided by the scheme. In order to facilitate the speed and ease

of reimbursement, administration of the scheme, particularly processing of claims, should be located as close to claimants as possible. Fine-tuning the design of a scheme is an ongoing process that requires information on who is enrolled and excluded, rates and causes of hospitalisation, expenditures on hospitalisation, and barriers that prevent enrolment in, and utilisation of, the scheme. So a system for monitoring and evaluating the scheme is vital.

INTRODUCTION

In the previous chapter, analysis of household survey data revealed that: wealth was not a determinant of membership in the Fund; frequency of reimbursement (relative to overall frequency of hospitalisation) by the Fund was low; and the Fund had not had a significant impact on total annual hospital expenditures per Fund member hospitalised. The household survey data, however, did not allow for an evaluation of the financial protection conferred by the Fund on those who actually submitted claims to it; only five hospitalisations reimbursed by the Fund were captured in the sub-study. Furthermore, data from the household survey could not be used to distinguish between frequency of claim submission and frequency of (claim approval and) reimbursement.

This chapter will assess the impact of the Self Employed Women's Association's (SEWA's) Medical Insurance Fund based on an analysis of all claims filed after July 1st, 1994. The Fund is assessed in terms of: (1) insurance coverage according to income groups (addresses thesis Objective 3); (2) protection of claimants from expenditures on hospitalisation (Objective 2); (3) lag time between discharge from hospital and reimbursement (Objective 2); and (4) frequency of use of the Fund (Objective 1). There were four hypotheses underlying these measures of impact. First, that the group of women benefiting from the Fund would be poor in comparison to the general population. This hypothesis was based on SEWA's focus on organising "poor, self-employed women workers... the unprotected Labor force of our country" (SEWA 1999). Second, that a well-performing scheme would significantly reduce the percentage of hospitalisations for which the expenditures

were catastrophic and the percentage of hospitalisations that caused annual household income to fall below the poverty line. Following the example of Pradhan and Prescott (2000) expenditures were defined as catastrophic when they consumed greater than 10% of annual household income.[1] Third, it was hypothesised that reimbursement would be provided in 30 days or less, a goal set by SEWA (2001, Appendix B). The fourth hypothesis was that the frequency of claims submission would be almost as high as, or higher than, the average rate of hospitalisation among an age- and gender-matched, non-insured population. Underlying this hypothesis was the assumption that the majority of hospitalisations would be eligible for reimbursement, that the insured would submit claims for all eligible hospitalisations, and that insurance could, by removing financial barriers to inpatient-care, result in higher rates of hospitalisation among the insured.

The first section of the chapter describes the methods used in analysing the insurance claims database and the second section presents results of the analysis. The final section discusses the results and their policy implications.

METHODS

Claims were entered into a Microsoft Access database. The data available from claims were as follows: self-reported, annual household income; total expenditures on hospitalisation (for which bills were available); date of discharge from hospital, date on which receipts and certificates were submitted, date of the insurance panel's decision: whether the claimant was reimbursed, and if so, when and in what amount.

Additionally, the following data sources were used in the analyses:

---

[1] The World Health Organization estimates that "families that spend 50% or more of their non-food expenditure on health are likely to be impoverished as a result" (WHO 2000, p. 36). The Engels ratios (the share of food in total expenditures) for Gujarat (1987-88 data) were 61% for rural households (ranging from 69% among the poorest quartile to 59% among the richest) and 60% for urban households (72% for the poorest quartile and 55% for the richest) (Meenakshi and Ray 1999). Thus, non-food expenditure accounted for 28 to 31% of total expenditures among the poorest quartile of households. Fifty percent of non-food expenditure is roughly equivalent to 14 to 16% of total expenditures. Assuming that self-reported income (reported in my study) is equal to self-reported expenditure, then the cutoff for "catastrophic" used by the WHO is comparable, although slightly higher (more conservative), than my cutoff of 10% of annual household income.

1/ The Times of India was the source of the poverty line in Rs. per capita per month (Anonymous 2001);

2/ SEWA's 1999 annual report was the source of numbers of insured per annum (SEWA 1999);

3/ The overall frequency of hospitalisation among this population was derived from the thesis household survey (Chapter 8) as well as other household surveys done in Gujarat (Chapter 8 of this thesis: Gumber and Kulkarni 2000: Sundar 1995);[2]

4/ The World Development Report 2000/2001 (World Bank 2001c) and the Gujarat State Socio – Economic Review 1999 – 2000 (Government of Gujarat 2000) were sources of gross domestic product, per capita;

Claims were included in this analysis only if the date of admission fell between July 1st, 1994 and June 30th, 2000, and were grouped by year according to the date on which the claimant was admitted to hospital. The financial year is from July 1st through June 30th.

Statistical analyses were carried out in Stata. In order to compare monetary amounts for different years (for example, data on income and hospital expenditures), values were standardised to 1999/00 Indian rupees. Gross Domestic Product (GDP) deflators for India from the International Monetary Fund (2000) were used in these calculations. Deflators were not available for calendar years 1999 to 2001 and were estimated by extrapolating from the data for the preceding ten years (1988 to 99), assuming a linear increase. Deflators that correspond to SEWA's financial year were estimated by taking the average of the deflators for the two calendar years included (for example, the GDP deflator for 1994 95 is the average of the deflators for calendar years 1994 and 1995). Monetary amounts for the year 1999/00 are also

---

[2] Given that the thesis household survey was relatively small, and hospitalisation was a relatively rare event, data on the frequency of hospitalisation were drawn from other studies to ensure the validity of the results of this sub-study.

expressed in US Dollars using the exchange rate at the end of calendar year 1999. 43.49 Indian Rupees to one US Dollar (IMF 2000).

India's official measure of poverty is a head count index based on the food-energy method. The poverty line is the monthly per capita expenditure in 1973-74 all-India prices of Rs. 49 in rural areas and Rs. 57 in urban areas, with people below this expenditure considered poor (Datt 1998). These expenditures correspond to a total household expenditure estimated sufficient to provide 2,400 calories daily in rural areas and 2,100 calories daily in urban areas, plus some basic non-food items. The poverty line in 1999-2000 was an income of Rs. 254 per person per month income (Anonymous 2001). In order to compare self-reported household income with the poverty line, a mean household size of 5.4 people was assumed (from the household survey). A household was considered to be below poverty line if the reported yearly income was below Rs. 16,459 (Rs. 254 per person per month x 12 months x 5.4 household members).

RESULTS

Overview

There were 1,930 claims for admissions between July 1st, 1994 and June 30th, 2000. Claimants had a mean age of 41.0 years (N = 1,927, median = 40 years). The leading causes of hospitalisation (N = 1,914) were accidents and injuries (14%), malaria (10%), acute gastro-enteritis (10%) and hysterectomy (9%) and the mean duration of hospitalisation was 6.1 days (N = 1,929, median = 4 days). Care was taken in private-for-profit (63.9% of claims), government (28.6%) and private-non-profit (7.5%) hospitals.

Income of claimants

Based on annual household income (self-reported), the claimants were much poorer than the general population. The mean annual, self-reported household income expressed in 1999/2000 Indian rupees was 25,984 (597 USD, N = 1,838, 95% CI =

24,604 to 27,365 rupees, median = 19,812 rupees). This is slightly lower than mean values of household income found by Gumber & Kulkarni (2000) of 31,182 rupees among 121 rural SEWA households and 37,715 rupees among 236 urban SEWA households (measures of variance not available). The mean value changed relatively little with the removal of outlying values (Table 9.1). Mean income among claimants was significantly less than the 1999 per capita income for all India of 450 USD (World Bank 2001c; equivalent to a household income of 88,067 rupees, one-sample t-statistic = -88.2, p-value = 0.000) and the 1998/99 per capita income for Gujarat of 18,792 rupees (Government of Gujarat 2000, equivalent to a household income of 93,005 1999/2000 rupees, one-sample t-statistic = -95.2, p-value = 0.000).[3] Thirty-six percent of all claimants fell below the poverty line; 661 of 1,838 women for whom income information was available. This just outside the high end of estimates of the percentage of Gujarati households that are below the poverty line.[4]

Table 9.1: Self-reported, annual household income of claimants

	Mean	95% CI		Median	N
Annual household income (Rs)	25,984	24,604	27,365	19,797	1,838
Remove outliers					
Two > 600,000 rupees	25,331	24,289	26,373	19,797	1,836
Six > 200,000 rupees	24,723	23,871	25,575	19,797	1,832

Protection from expenditures on hospitalisation

On average, the Fund reimbursed claimants for a high percentage of total expenditures on hospitalisation (Table 9.2). Eleven percent (215) of claims were rejected (N = 1,927)[5]. The median expenditures on reimbursed hospitalisations was 1,387 rupees (32 USD, N = 1,712, mean = 2,037 rupees) and the median amount reimbursed was 1,200 rupees (28 USD, N = 1,712, mean = 1,016 rupees). Of the

---

[3] As with the calculation of poverty line, in order to compare household income with published figures of per capita income, we assumed (conservatively) a household size of 4.5.

[4] Estimates of the percentage of Gujarati households below the poverty line vary from 14.07% (Gujarat Department of Rural Development) to 33.48% (State Food and Civil Supplies Department) (Anonymous 2001). Even figures used by the World Bank vary considerably; for example, the estimates for 1993-94 range from 22.16% rural and 28.28% urban (World Bank 1998) to 35.39% rural and 30.66% urban (Datt 1998).

claims reimbursed, 47% (807) were reimbursed in full and the mean rate of reimbursement among the remainder was 55.6% (N = 905, median = 57.3%); the mean rate for all reimbursed claims was 76.5% (N = 1,712, median 92.6%)[6]

The Medical Insurance Fund significantly lessened the financial burden of hospital expenditures made by claimants; however, even after reimbursement, the expenditures by some claimants were catastrophic. The mean expenditure on hospitalisation (12.2% of annual household income) was significantly higher than the expenditures by reimbursed claimants after reimbursement (5.8% of income, N = 1,632, paired t-statistic = 37.9, p-value = 0.000; Table 9.2). For 35.6% (581) of claims, the total expenditures on hospitalisation would have been catastrophic to the claimant, while expenditures by the patient after reimbursement were catastrophic in 15.1% (246) of claims (N = 1,632, paired t-statistic = 20.5, p-value = 0.000; Table 9.2).

Table 9.2: Cost of hospitalizations and amount reimbursed

	Mean	95% CI		Median	N
Total cost of all hospitalizations (Rs.)	2,046	1,945	2,148	1,409	1,930
Total cost of reimbursed hospitalizations (Rs.)	2,037	1,930	2,143	1,387	1,712
As % of annual HH income	12.2%	11.1%	13.2%	7%	1,632
% for whom total cost is catastrophic	35.6%	33.3%	37.9%	-	1,632
Amount reimbursed (Rs.)	1,016	998	1,034	1,200	1,712
As % of total hospital costs	76.5%	75.2%	77.9%	93%	1,712
Amount borne by claimants, after reimbursement (Rs.)	1,020	922	1,119	100	1,712
As % of annual HH income	5.8%	4.9%	6.6%	0.3%	1,632
% for whom post-reimbursement cost is catastrophic	15.1%	13.3%	16.8%	-	1,632

Table 9.3 suggests that the burden of hospital expenditures was greater among poorer claimants, and that reimbursement by the Fund was more effective in

---

[5] Of the 215 claims rejected, reasons for rejection included pre-existing disease (48%), incomplete documentation (15%) and fraudulent claim (10%).

preventing catastrophic hospital expenditures among the poorer quintiles. Reduction of catastrophic expenditures by the Fund was significantly associated with income, having the greatest impact among the poorest quintiles (Chi-squared statistic = 281.3, p-value = 0.000). An indicator of dispersion (percent of the poor for whom expenditures were catastrophic/percentage of the non-poor in the fifth income quintile for whom expenditures were catastrophic), was higher before reimbursement (2.03) than after reimbursement (1.64). After reimbursement, claimants who used government hospitals incurred less financial burden than claimants who used private-for-profit hospitals (post-reimbursement hospital expenditures of 1.4% versus 8.0% of annual household income; 3.7% versus 21.2% of claims catastrophic to household finances; *data not shown*).

Table 9.3: The financial burden of total hospital costs and costs borne by the claimant after reimbursement (reimbursed claimants only)

	Income quintiles						Dispersion *
	1	2	3	4	5	Total	
Total hospital costs (N = 1,632)							
% of HH income	25.5%	12.7%	8.9%	7.3%	4.8%	12.2%	
% for whom total cost is catastrophic	72.4%	45.7%	23.6%	19.5%	12.1%	35.6%	2.03
Amount borne by claimants, after reimbursement (N = 1,632)							
% of HH income	11.7%	5.9%	4.0%	3.8%	2.8%	5.8%	
% for whom total post-reimbursement cost is catastrophic	24.8%	16.1%	12.7%	11.9%	8.7%	15.1%	1.64
Change in the % of catastrophic care after reimbursement	47.6%	29.6%	10.9%	7.5%	3.4%	20.5%	
	Pearson chi2 = 281.3, p-value = 0.000						

* Percent of the poor for whom total expenditure was catastrophic / percent of the not-so-poor (fifth quintile) for whom total expenditure was catastrophic

Even before hospitalisation, 36% of reimbursed claimants fell below the poverty line according to their income (595 of 1,632 reimbursed claimants who provided data on income). Hospital expenditures caused an additional 6.4% of households to fall below the poverty line (104 households). Reimbursement by SEWA prevented

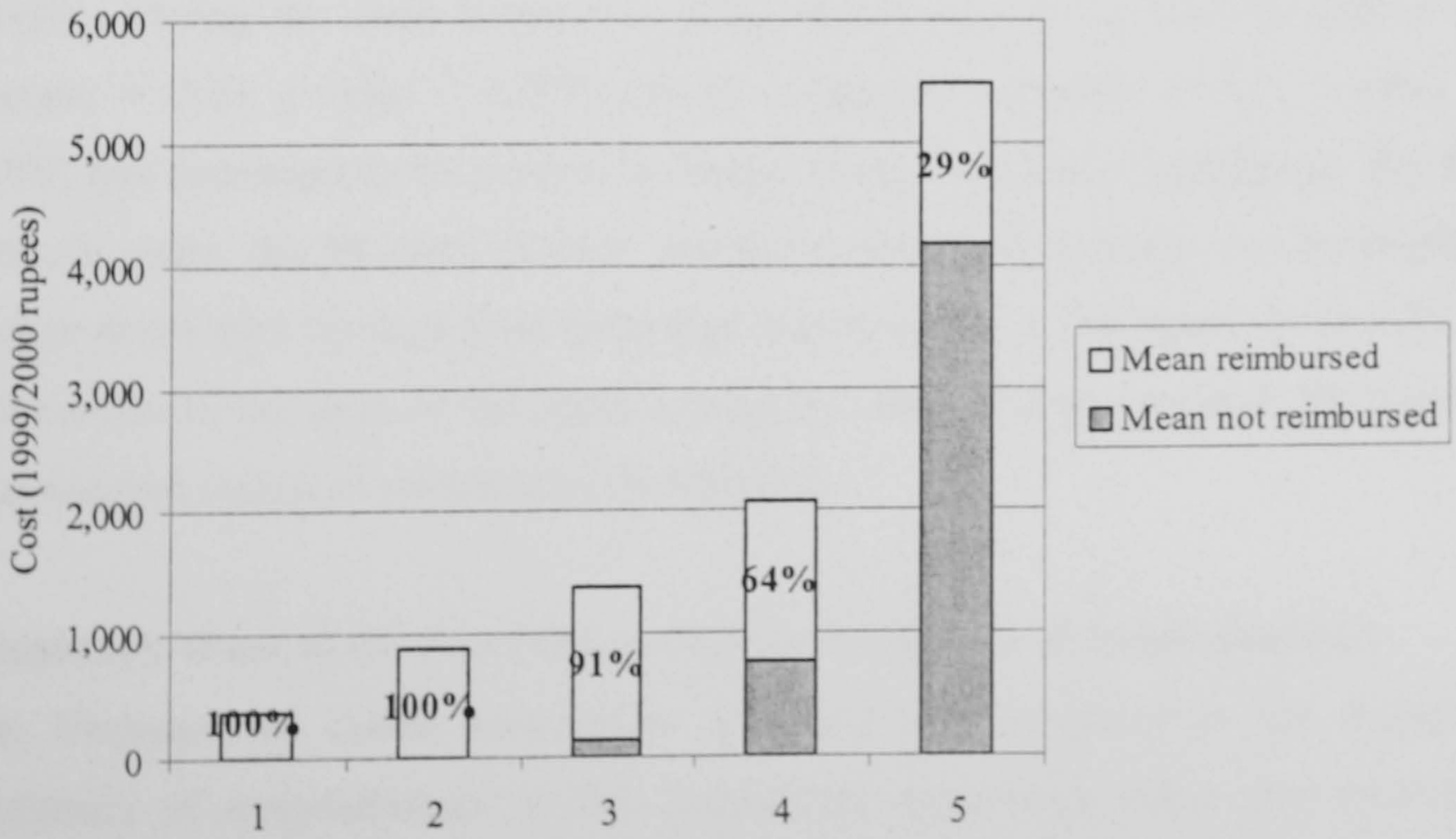
---

[6] Mean rate of reimbursement = [sum (amount reimbursed per claim ÷ total expenditure per claim x 100)] ÷ number of reimbursed claims.

2.8% (46) of all reimbursed claimants from falling below the poverty line (N = 1,632, paired t-statistic = 6.9, p-value = 0.000), i.e. the Fund significantly reduced (by 52%) the percentage of hospitalisations that would have resulted in impoverishment.

The degree of financial protection provided by the scheme was less for the most expensive hospitalisations. As illustrated in Figure 9.1, the percentage reimbursed by SEWA varied considerably by quintiles of total hospital costs, from a mean of 100% for the least expensive quintile and 29% for the most expensive. With reimbursement, the percentage of hospitalisations that were catastrophic dropped considerably amongst the 3rd and 4th quintiles (from 31 to 0% and from 51 to 9% respectively); however, the impact was less impressive for the most expensive quintile of hospitalisations (from 83% catastrophic before reimbursement to 69% after reimbursement; data not shown).

Figure 9.1: Mean amount reimbursed and not reimbursed, by quintiles of total hospitalisation cost



Lag time between discharge from hospital and reimbursement

On average, reimbursement was provided almost four months after hospital discharge, and the lag time appeared to be longer for those living in rural versus urban areas (Table 9.4). The lag time between discharge and reimbursement was 119 days (N = 1,102, median = 99). This was significantly longer for Kheda District, where most members live in rural areas (mean = 161 days, N = 334, median = 140 days) than in Ahmedabad, where most members live in Ahmedabad city (mean = 100 days, N = 740, median = 87 days, t-statistic = -13.3, p-value = 0.000). Similarly, the lag time was significantly longer among those who work as farmers or agricultural labourers in comparison to those working in non-agricultural sectors (t-statistic = -7.9, p-value = 0.000, Table 9.4).

Lag time had decreased significantly during the two most recent fiscal years to just over three months, and the differences by district and occupation had virtually disappeared (Table 9.4). The mean lag time for fiscal years 1994/95 through 1997/98 was 159 days (N = 384, median = 140) and for fiscal years 1998/99 and 1999/2000 was 98 days (N = 718, median = 87 days, t-statistic = 14.0, p-value = 0.000). During the most recent two years, differences in lag time by district (t-statistic = -0.69, p-value = 0.492) and by occupation (t-statistic = 0.11, p-value = 0.905) had decreased to the point of no longer being statistically significant. For the last two years, the 98 days between discharge and reimbursement can be roughly broken down into: 55 days from discharge to submission of the claim, 26 days from submission to the date of the panel's decision, and 18 days between the panel's decision and receipt of payment by the claimant.

Frequency of use of the Fund (as a proxy for frequency of hospitalisation)

The frequency of claims submission was very low compared to the expected frequency of hospitalisation in this population, suggesting either that excluded conditions were responsible for a high percentage of total hospitalisations *or* that members did not submit claims even when the hospitalisation might be eligible for reimbursement, or both. In any case, the claims database does not provide any

evidence to suggest that the SEWA scheme increased hospital utilisation. The overall frequency of claims submission was 18.0 per 1,000 members per year (N = 1,930, 95% CI = 17.2 to 18.8).[7] Figure 9.2 compares the frequency of claims submission with the frequency of hospitalisation among females found in several household surveys conducted in Gujarat State.[8] The frequency of submission of claims to SEWA, as a percentage of the frequency of hospitalisation found in these studies, ranges from 19% (Chapter 8 of this thesis; frequency = 96.4, 95% CI = 27.9 to 165.0) to 37% (Gumber and Kulkarni 2000; rural, frequency = 48.0, 95% CI = 25.0 to 71.0).

Table 9.4: Lag time (days) from discharge to reimbursement

	Mean	95% CI		Median	N
Overall	119	115	124	99	1,102
By district					
Ahmedabad	100	96	104	87	740
Kheda	161	151	171	140	334
By occupation					
Farmer or farm laborer	143	134	152	124	387
Other	107	102	111	90	710
By fiscal year					
1994 to 1998	159	150	169	140	384
1998 to 2000	98	95	102	87	718
Restricting analysis to 1998-2000					
By district					
Ahmedabad	97	92	101	85	550
Kheda	100	93	107	93	146
By occupation					
Farmer or farm laborer	98	92	103	88	202
Other	98	94	103	87	513

The frequency of claims submission was fairly consistent across fiscal years (Table 9.5), 1995/96 being the exception at only 11.0 claims per 1,000 members. Using

---

[7] We were unable to examine frequency of claims by district as there were no accurate records of the number of members per year by district.

[8] The Ranson study (Chapter 8) included SEWA members, ages 18 to 58 years, in Kheda district, Gujarat. The Gumber and Kulkarni (2000) study included females of all ages living in households where at least one woman was a SEWA member. The Sundar (1995) study included females of all ages in a sample of the general population. These studies included hospitalizations due to all causes, including chronic and other causes that might be ineligible for reimbursement under the SEWA scheme.

rough estimates of the number of *lifetime* and *annual* members (data gathered by the International Labour Office; ILO 2001) the frequency of claims submission was estimated for these two categories of membership (Table 9.5). Among lifetime members, the frequency of claims submission has gradually increased over the years to 32.7 per 1,000 members per year, while the frequency among annual members has gradually decreased to 5.6 per 1,000 members per year. Overall, the frequency of claims submission was 1.7 times higher among lifetime members. Meanwhile, the likelihood of rejection (versus reimbursement) was similar for lifetime and annual members (12% versus 10%; data not shown).

Figure 9.2: Frequency of claims and hospitalizations in Gujarati women (various sources) with 95% confidence intervals

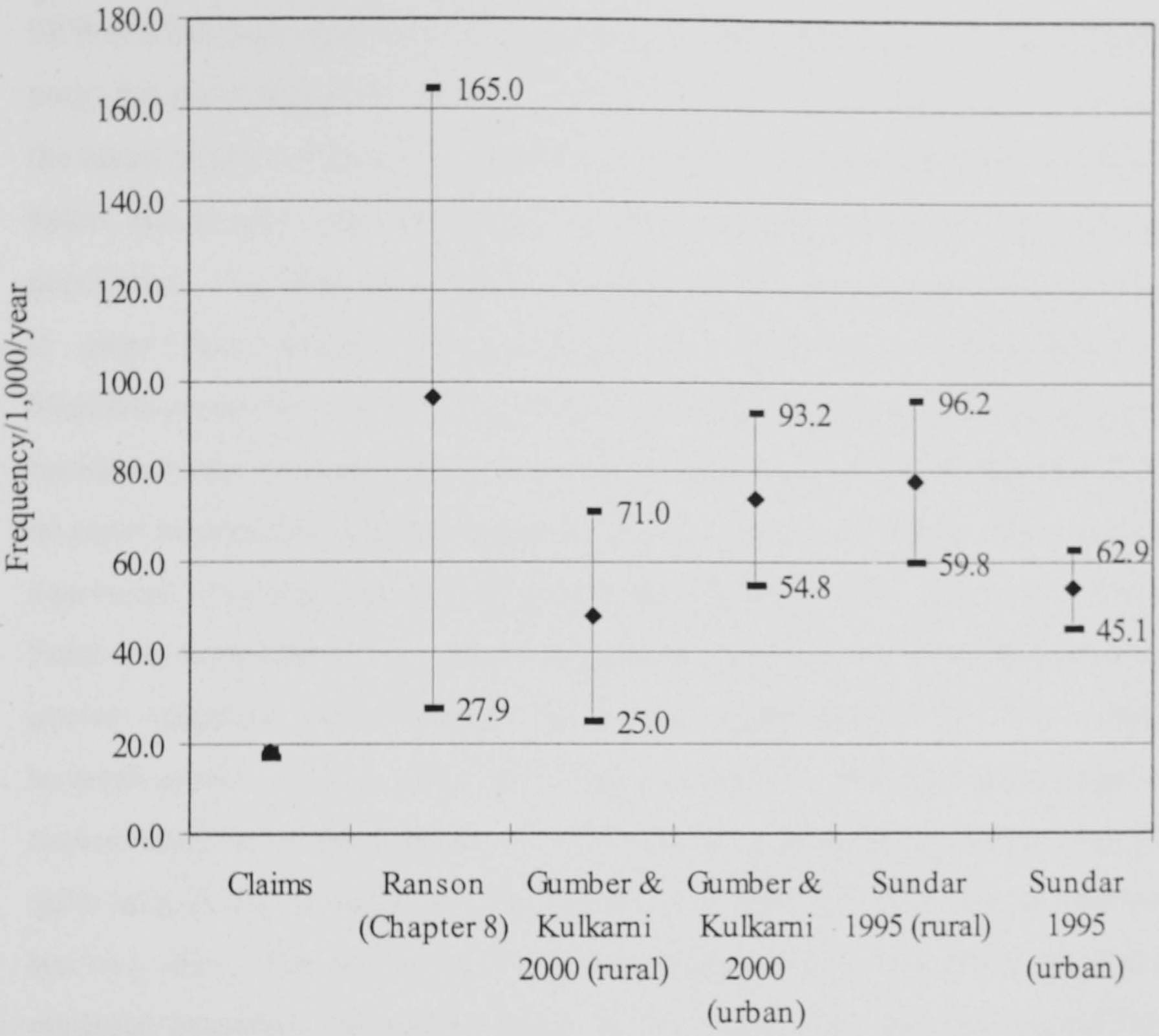


Table 9.5: Frequency of claims submission by membership type (lifetime and annual) and year

	Number of members			Claims per 1,000 members per year		
Year	Total	Lifetime	Annual	Total	Lifetime	Annual
94/95	10,000	4,500	5,500	20.6	1.6	35.8
95/96	12,784	6,500	6,284	11.0	6.0	16.1
96/97	15,846	7,500	8,346	16.2	16.3	16.2
97/98	19,515	10,000	9,515	19.5	23.0	15.6
98/99	26,000	10,500	15,500	19.9	36.0	9.0
99/00	23,214	11,000	12,214	18.4	32.7	5.6
Total	107,359	50,000	57,359	18.0	22.7	13.7

DISCUSSION

Summary of findings

SEWA's Medical Insurance Fund appears to have been successful at including the poor; the mean household income of SEWA claimants was significantly lower than the mean income of the general population, and the percentage of households living below the poverty line was similar among claimants compared with the general population. The Fund undoubtedly provided some financial protection to claimants; it more than halved the percentage of catastrophic hospitalisations and hospitalisations that would have resulted in impoverishment. However, even after reimbursement the expenditures were undoubtedly a threat to the financial wellbeing of some households; fifteen percent of claimants were still faced with expenditures equivalent to greater than 10% of annual household income. Reimbursement by the Fund was more effective in preventing catastrophic hospital expenditures among the poorer quintiles, and among those who experienced the least expensive hospitalisations. Even when the Fund covered an adequate percentage of the expenditures on hospitalisation, the time between discharge and reimbursement was quite long, at four months over the last six years, and just over three months over the last two years. The frequency of claims submission was very low compared to the expected frequency of hospitalisation in this population, but was almost twice as high among lifetime versus annual members of the scheme.

Critique of methodology

Some of the data included in the insurance claims may not have been reliable. In particular, data on self-reported household income and cost of hospitalisation were likely inaccurate. The insured may have misreported household income if they were unaware of the true amount, they did not understand the question, the question was asked differently at different households, or they were distrustful of the interviewer. Costs of hospitalisation, even when evidenced by bills and receipts, were likely inaccurate. Firstly, the costs reported in the claims did not include the many indirect costs of hospitalisation, including: transportation, bribes and gifts supplied to health

care providers, and food provided to visitors. Furthermore, the bills may not have accurately reflected the direct costs of hospitalisation; when the insured are aware that the maximum coverage under the Insurance Fund is Rs. 1,200, they are motivated to collect receipts up to, but not exceeding, this amount. During the course of this study, one doctor commented that SEWA insured are happy if they have a receipt showing at least Rs. 1,200, regardless of the actual cost of hospitalisation.

Discussion, conclusions and recommendations

The Fund's success at including the poor surely reflects SEWA's commitment to target the self-employed poor. It is likely due also to a flat-rate premium that is fairly low, currently 72.5 rupees (or 0.4% of median annual household income among claimants in this study). Studies of CBHI schemes in Ghana, Burundi and Mexico have found that cost of membership was indeed an important determinant of participation (Bennett, et al. 1998). By targeting the poor – and consequently, to some extent, excluding the wealthy – the Fund may limit the extent to which redistribution occurs, both from high to low-income and from the healthy to the ill. SEWA may also foster adverse selection by enrolling women who are at higher risk of ill health than the age- and sex-matched general population. Thus, the Fund faces a challenging trade-off. On the one hand, the Fund is committed to serving the poor, which translates into low premiums and a target population in which the frequency of illness, and thus hospitalisation, may be relatively high. On the other hand, the Fund is expected by administrators to remain financially viable. To date, this trade-off has not been very problematic for the Fund, in large part because the low rates of Fund utilisation (along with the small external grant from German Technical Cooperation) have meant consistently high rates of cost recovery. A CBHI scheme that wishes to target strictly the poor could improve equity and financial viability by seeking subsidies from government or donor agencies. Subsidies may, however, not be sufficiently reliable or sustainable. Alternatively, a socially oriented CBHI could seek to broaden membership to include wealthier populations, but ensure equity by indexing premiums to income and enabling equal (or better) access to care among

the poor. At least for voluntary CBHI schemes, this would require a high degree of social solidarity among members.

Even after reimbursement, hospital expenditures were catastrophic for some members. Some women may have paid the uncovered balance out of their savings, many undoubtedly had to borrow, sell capital, work more or forego spending. SEWA administrators wish to maintain a ceiling on reimbursements, so as to prevent adverse selection and protect the scheme from large claims. Maintaining this cap on reimbursements may seem to be against the principles of socially oriented insurance, insofar as it limits the degree of risk-pooling and financial protection available to members. However, given that the total premiums collected under the Fund remain relatively small (relative to the cost of long, expensive hospital stays), and that the Fund is not reinsured by any higher-level insurer, the cap has been maintained in order to protect the Fund's financial viability. In future years, administrators plan to introduce new packages that would provide a higher level of coverage at a higher premium. For example, they have designed a package (to be offered alongside the existing package) that would cover hospitalisation to 9,000 rupees for an annual premium of 237 rupees, compared to the present ceiling of 1,200 rupees for a premium of 30 rupees (SEWA 2001). There is the risk that the new package is going to attract the economically better-off SEWA members and exclude poorer members; this could have negative impacts on equity if it creates two separate pools, thus limiting the amount of risk-pooling and cross-subsidisation.

It is impossible to know whether financing of hospitalisation under the Fund was equitable; while the poorest claimants did seem to benefit most in terms of prevention of catastrophic expenditures, it is possible that even poorer members of the Fund were not accessing hospital care or submitting claims. Determining whether or not the Fund was equitable requires information on the household income and hospital expenditures of all members, rather than claimants alone. The household survey (Chapter 8) captured only five episodes of reimbursement by

SEWA, and thus was not sufficiently large to explore the equity impact of the scheme.

Lag-time between discharge and reimbursement was much higher than SEWA's stated goal of 30 days, and was certainly too long for those women who had to borrow at high rates of interest to pay for their hospitalisation. Decentralisation of the claims process to the Anand office (for Kheda District) coincided with the drop in lag time since 1998. At present, more than half of the lag time (55 of 98 days) occurs between discharge from hospital and submission of the claim to SEWA. This may be because of problems encountered in collecting receipts and certificates, or difficulties in presenting the claim to the closest SEWA office (e.g. lack of time or money for transportation, restrictions on where the claimant may travel independently, poor health). Future research should investigate why women wait so long before submitting their claims. Mechanisms that could be put in place to encourage claims submission (and also address the problem of delays in claim submission, include: (1) providing women with further education around benefits under the Fund, and the process of claim submission; (2) training village-level SEWA workers to accept insurance claims, so that members would not have to travel to offices in Anand or Ahmedabad to submit; (3) establishing a program wherein Members could notify SEWA at the time of admission to hospital, so that a SEWA representative could be present at the time of discharge to collect all of the appropriate paperwork; or (4) establishing more formal links with certain hospitals such that the hospitals could submit receipts and certificate directly to SEWA.

The relatively low rate of claims submission suggests that: members had low rates of hospitalisation (perhaps due to high anticipated costs); excluded conditions comprised a high percentage of all hospitalisations; or members submitted claims for only a fraction of all hospitalisations. The latter would not be surprising given that rates of reimbursement may be considered low by members (as the Fund does not cover transportation, bribes, etc.), while the costs of submitting a claim (for example, transportation to the SEWA office, opportunity cost of missed work, bribes

paid to doctors for hospital certificates) are potentially quite high. It is not clear why the frequency of claims submission was higher among lifetime members. According to scheme administrators, lifetime members are more likely to be reimbursed for hospitalisations related to chronic or pre-existing diseases, so perhaps such conditions account for the higher rate of claims among this group. An alternative hypothesis is that lifetime members are more familiar with the benefits, and overall processes, of the scheme and thus are more likely to submit claims. The claims database provides no evidence to suggest that the Fund increased the frequency of hospital utilisation. A study should be conducted to investigate the causes of all hospitalisations among Fund members. If excluded conditions do indeed comprise a high percentage, then SEWA administrators should consider including some of these in the benefits package. The high rates of cost-recovery by the Fund suggest that there is room for reducing the number of exclusions. Operational research should also investigate the frequency with which, and the reasons why, women are hospitalised for a condition covered by the Fund and yet do not submit a claim.

Every change that administrators make to the Fund, whether an increase in breadth or amount of the benefits package, or interventions to improve rates and timeliness of insurance claim submission, will have to be weighed against impact on the Fund's affordability and ability to recover costs.

This sub-study is one of the very few to have investigated the impact of a CBHI scheme on health care utilisation and the financial burden of medical expenditures. Its findings have important implications for policy concerning CBHI schemes in India and elsewhere. In India, as in many other developing countries, expenditures on hospitalisation are frequently catastrophic to household finances. The study shows that CBHI can effectively protect poor households against the uncertain risk of medical expenses, and can be implemented in areas where institutional capacity is too weak to organise mandatory, nation-wide risk-pooling.

The study identified various aspects of scheme design and management that can be tailored (depending on the priorities of scheme administrators) to achieve such goals as risk-sharing, cross-subsidisation, financial protection of households and scheme financial viability. First, this study suggests that CBHI can include the poor, including individuals and households below the poverty line. Factors that may facilitate inclusion of the poor include an affordable premium, external assistance, and nesting the scheme within a larger organisation that addresses other needs of the poor (for example, providing access to credit, education and bargaining power in the workplace). Second, the financial risk borne by a scheme can be limited by placing a cap on the benefits provided. However, this also limits the extent of risk-pooling and cross-subsidisation provided by the scheme. There will inevitably be cases where hospital expenditures far exceed this cap with dire financial consequences for the insured. Third, in order to relieve the financial burden of expenditures on households, reimbursement under a scheme should be fast and facile. This requires that administration of the scheme, particularly processing of claims, be located as close to claimants as possible. Fourth, fine-tuning the design of a scheme requires information on who is enrolled and excluded, rates and causes of hospitalisation, expenditures on hospitalisation, and barriers that prevent enrolment in the scheme and utilisation of the scheme by those who are insured. So a system for monitoring and evaluating the scheme is vital.

CHAPTER 10: EXPLORING THE SOCIAL CONSEQUENCES AND DETERMINANTS OF CBHI: PERCEPTIONS OF SEWA'S MEDICAL INSURANCE FUND AMONG PARTICIPANTS

SUMMARY

The aim of this chapter is to investigate what participants in SEWA's Medical Insurance Fund see the Fund as providing, and what they perceive as accounting for its success or lack of it.

In-depth interviews and focus-group discussions were conducted with Fund participants – beneficiaries, health care providers, administrators and the external donor. Transcripts were coded using a grounded approach wherein codes were generated to represent the main themes found in the data.

Transcripts for 28 interviews were available for analysis. Some women enrolled in the Integrated Insurance Scheme (IIS) were unaware of the scheme and their membership in it. The decision to join the scheme was often made by, or in collaboration with, other household members. Beneficiaries who were aware of the Fund described its benefits strictly in terms of reimbursement for hospital expenditures. For the most part, members who received reimbursement from the Fund seemed satisfied with the amount received. Many of the women who had submitted claims to SEWA experienced difficulties in compiling the necessary receipts and certificates.

The data did not support the hypothesis that the Fund had social consequences. Rather, they suggest that financial protection is the primary goal among participants. The interviews provided some evidence to suggest that "affiliation" with other members and sense of community were instrumental in increasing membership in the IIS. This study highlights some of the difficulties encountered by CBHI schemes. For example, the baseline understanding of insurance and solidarity may be absent or limited. The insurer may have to invest a great deal of time, money and

energy to educate participants in the scheme around the concept of insurance and health insurance.

INTRODUCTION

The aim of this chapter is to investigate what participants in SEWA's Medical Insurance Fund see the Fund as providing, and what they perceive as accounting for its "success" or lack of it. The first section provides detail on the methodology, beyond what was provided in Chapter 4. The second describes the results and the final section summarises the results, critiques the methodology, and discusses and interprets the findings.

METHODOLOGY

Among SEWA participants, three FGDs (with SEWA members and non-members) and 30 or 31 in-depth interviews were planned. The in-depth interviews were to include: twenty-five enrolled members, three or four health care providers, one administrator and one government representative. Transcripts for 28 interviews were available for analysis: five focus-group discussions, and in-depth interviews with thirteen SEWA members (past or current), four health care providers, five scheme administrators and one representative of the external donor. Appendix 10 provides a brief description of each interview subject. These interviews included fewer SEWA members than planned (13 versus 25), but a larger sample of administrators (5 rather than 1). Interviews with government representatives could not be included in this analysis. District-level representatives (including the District Medical Officer) refused to be interviewed as they claimed to know absolutely nothing about insurance, or SEWA. A Joint Secretary of Health (Government of India) was interviewed, but the resulting information could not be used in this sub-study as the respondent did not allow the interview to be recorded.

RESULTS

Reasons for participating in the IIS

This section opens by describing members' knowledge of the IIS (and their membership in it) and some of the factors that appear to be most important in determining whether or not women will join the IIS. It then explores the benefits of the IIS and the Fund as perceived by participants. Results are presented under the following sub-headings:

- Awareness among members of the IIS;
- Decision to join often made by male household members;
- Ability to pay an important determinant of membership;
- What the IIS should provide;
- What the Medical Insurance Fund should provide.

<u>Awareness among members of the IIS</u>

Some SEWA insured women were unaware of the IIS or their membership in it. In most cases, this lack of awareness seemed to occur as other household members (often male) had purchased the insurance:

> *Interviewer: How much money were you paying there? When the sisters used to come?*
> *Respondent: I don't know, he (my husband) had paid. It was seventy or eighty that were paid. Ask him.*
> *(BEN-SEWA 11)*

> *Interviewer: Are you a member in any organisation?*
> *Respondent: No, sister.*
> *Respondent's son: Yes, yes.*
> *Respondent: I am? I didn't know.*
> *Respondent's son: Mahila Swasthya. Insurance organisation.*
> *Interviewer: Are you a member?*
> *Respondent: Member? The share that we have taken, isn't it? I don't understand all this, that we have taken share.*
> *Respondent's son: It's insurance, insurance.*
> *Interviewer: In that, how much money do you pay?*
> *Respondent: How much do we pay? (Asking her son.)*
> *Respondent's son: Seventy rupees.*
> *(BEN-SEWA 12)*

One administrator acknowledged that lack of awareness was a problem, and attributed it to the failure of household members to communicate information to one another:

> *Respondent: Many times it happens that the women does not know that she has taken the insurance. Many times it happens if the daughter-in-law has taken the insurance, the mother-in-law is not aware of it.*
> *(ADMIN-SEWA 3)*

Decision to join often made by male household members

Even when the respondents were aware of their membership in the IIS, the decision to join was made by, or in collaboration with, male household members. One respondent stated that the decision to join the IIS was deferred to her son:

> *Respondent 1: We will ask our sons. My husband has gone out, so I will ask them. If my sons say "okay mother you can pay", only then can I pay. Then we will pay, okay.*
> *Respondent 3: This sister will collect the insurance. (Pointing towards the village SEWA leader.)*
> *Respondent 1: Okay we will tell her. After talking to everyone in our family, we will tell... But we will go home and talk to our sons. As they move outside (the village), they know everything, while we do not go anywhere. Till today I haven't even seen Dakor (a nearby town)... So we will go home and ask our sons, because we are not so experienced.*
> *(FGD-SEWA)*

One village leader explained that enrolling a woman in the scheme was made easier if the woman and her husband agreed to the membership:

> *Respondent: But I give them the paper, so at times what happens is that women come to me with a lot of enthusiasm but their husbands then refuse to let them join. So if she joins after they have come to an agreement, then it becomes easy. If both of them agree to it there are no problems.*
> *(ADMIN-SEWA 4)*

Ability to pay an important determinant of membership

Finding enough money to pay the premium was clearly an issue for some women. One respondent who was a member at the time of the household survey, had chosen not to renew her membership in the IIS:

> *Interviewer: Have you paid this time?*
> *SEWA worker: This time I had told her to pay insurance but she didn't.*
> *Respondent: I haven't paid. Without money how can I pay? Illnesses are going on.*

SEWA worker: When there is no money for illness, how can they pay insurance.
Respondent: That's what— If we are not sick, we can pay... But as there is illness, so— So, and how can we pay for insurance and then benefit also.
(BEN-SEWA 5)

Male respondents suggested that the premium be collected during the harvest, as money was more likely to be available at that time.

Respondent 1: We want to take insurance but we do not have money. From where can I bring so much amount of money?
Respondent 2: So what you should do is that you should pay it in tobacco season. It is also a kind of saving.
Respondent 3: You could pay as per the season. Otherwise, you cannot get this amount.
Respondent 4: Otherwise we cannot save two hundred, three hundred rupees.
Respondent 1: During the agricultural season we can have enough money to pay for it.
(FGD-MIX 4)

A representative of the external donor confirmed that the ability to pay for insurance is a "precondition" for schemes like the IIS:

Respondent: That when people are organised already and have a good saving and credit system in place, earn a certain amount of money – I mean those were also these preconditions so that they can pay the premium – that then one can start with this kind of insurance packages.
(DONOR-SEWA 1)

<u>What the IIS should provide</u>

When asked about the IIS, beneficiaries who were aware of the IIS tended first to mention the life insurance component. Respondents seemed to view life insurance as something they were doing for others, particularly their children, rather than for themselves:

Interviewer: With what hope are you paying?
Respondent: They say that, "when you won't be there, your children will get." ...At least the children will be happy after us. We will work hard till the end. That way they have convinced us to pay. That, "if you are not there, then it will be useful for your children.
(BEN-SEWA 8)

This view was shared by a village-level representative of SEWA:

Respondent: Insurance is, to us insurance means that in later stage of life, even if we do not have any thing but we have taken insurance, then our children can do something with the insurance payment... (Even when we

are still alive) He can say to money-lender that, "my mother and father have taken insurance, so I can return you back when I receive the insurance benefit". So our children can have that much relief.
(ADMIN-SEWA 5)

A higher-level administrator felt that the IIS should provide benefit in the form of "social security", directly to its members (with no mention of benefits to members' children or husbands):

But all along in my mind I always saw them (the members) as workers, as producers, as entrepreneurs, as labourers, I mean as an economic component... So this informal sector, who is also contributing to the economy, should also in their own right, should have access to social security, as any other, other formal sector workers have. So I always saw this as part of their, as part of their labour rights.
(ADMIN-SEWA 2)

As well, this respondent discussed the holistic nature of the IIS, addressing not only death, but illness and loss of assets:

When they could not repay loans...then we had to go in depth into the problems, of their lives, of their livelihoods.... So illness – so there was always constant illness in the family. You know somebody or the other was always sick. So cost of the medicine then. Then their house was also, I mean the slums were also so – only kuttcha – and their slums being also not only homes but also work places for their production, storage... And there was mortality, was also there.
(ADMIN-SEWA 2)

What the Medical Insurance Fund should provide

Beneficiaries who were aware of the Fund described its benefits in financial terms. In the following interviews, women expressed the belief that the Medical Insurance Fund covers half of hospital costs:

Interviewer: So, what benefit do you get from that?
Respondent: What benefit will we get? If someone is not well, then they give half money.
(BEN-SEWA 9)

Respondent: Look, if we want to take insurance then we have to pay 90 rupees if it is for both man and woman and if we want to take insurance only for ourselves, then you have to pay seventy rupees. In that, if you fall ill and you are hospitalised then they give you half of the expenditure. But you have to show bills for that and then only you can get back money.
(FGD-MLX 1)

Respondent: I have paid five hundred and fifty rupees... If we fall sick. they give us half the money.
(FGD-MIX 2)

Husbands of SEWA members (in a focus-group) discussed the importance of timely reimbursement, agreeing that payment should be made within days of hospitalisation, as loans would have to be taken in the interim:

Respondent: ...even if we have taken a health insurance policy, for that time (prior to reimbursement) anyhow we must make some arrangement for the money... So after we submit the bill they should give us money within 2-4 or 5 days. Because we also have to borrow it from someone. So we should get it (reimbursement) in time.
(FGD-MIX 4)

Administrators of the Fund did not describe the benefits of the scheme in terms of the amount of money reimbursed. Rather, they discussed: who should be covered under the Fund, how and when the reimbursement should be provided, and non-financial benefits of the scheme. Several administrators said that an attempt should be made to cover all SEWA (trade union) members under the IIS. One suggested that increasing coverage was a means to combat high levels of illness among the covered population (i.e. adverse selection):

Respondent: Important thing is, we must have more members and more premium. Or more members so that the percentage of illness will be comparatively less, so, the loss of a claim, we, what we are giving, can be adjusted against the premium of more people.
(ADMIN-SEWA 1)

Administrators talked about the importance of processing the claims quickly and easily, so that women receive their money soon after hospitalisation.

Respondent: Our main objective is to provide money immediately to the women... We want to make it much easier so that they can get money sitting in their home. This I am very much willing to do.
(ADMIN-SEWA 3)

As well it was suggested that SEWA should be somewhat lenient in the processing of claims as the scheme is a "social service":

Respondent: And, purpose of the insurance scheme should be, it cannot be rigid. Of course, integrity of the insured should be there. But at the same time we should not be so rigid in neglecting the claim, or not giving the claim. We should understand that this is the social service, social obligatory scheme. So, we should be liberal in that.

(ADMIN-SEWA 1)

Scheme administrators saw the scheme as a tool for increasing women's awareness of their own health, and for educating women around health care:

> *Respondent: Through our insurance scheme women gains an awareness of her own health, that "I must take care of myself then only I can take care of my house". "If I am not healthy then how will I take care of my house or my children or do my job?" So they themselves get aware about this.*
> *(ADMIN-SEWA 3)*
>
> *Respondent: The purpose of this scheme is, our members should know who are the quacks (the untrained and unlicensed doctors). And to whom they should go. And what is the fact. And what is the proper treatment. So this is the one type of the health education also... Suppose one member does not get the claim, or we say to her okay because of this problem (because she has taken health care from a quack) you are not getting the claim... So, that will be one, this is also one type of the health education also.*
> *(ADMIN-SEWA 1)*

Experience among those who have used the Fund: perceived impact

Several sub-themes emerged from discussions with beneficiaries of their experiences with the Medical Insurance Fund:

- Degree of financial protection from hospital expenditures;
- Problems in compiling claims;
- Choice of provider and quality and cost of care;
- Awareness of insurance;
- Other comments on the strengths and weaknesses of the IIS and Fund.

<u>Degree of financial protection from hospital expenditures</u>

Opinions about the degree of financial protection provided by the Fund varied. For the most part, members who received reimbursement seemed satisfied with the amount received, although they did acknowledge that there were costs beyond the direct costs that could be included in the claim. In the following case, the respondent voices her satisfaction with the reimbursement, despite having received only a small percentage of the total cost of hospitalisation:

> *Interviewer: Then, what benefit did you get, for paying that money (i.e. the IIS premium)?*
> *Respondent: Got benefit. I received twelve hundred rupees... I received it*

when the operation was done...I had completed all the papers and given to them. At the (SEWA) office. So they gave money from the office. Then, even the lady from the insurance (from the SEWA office) had come here. She wrote down everything and then, after six months I got the money... the expense was ten thousand. Out of that I received twelve hundred...If it was ten thousand, I got at least twelve hundred rupees. For this we must take insurance. When I was sick, at least I could get the maintenance cost for running the household – from the twelve hundred I got. For this reason we take insurance.
(BEN-SEWA 3)

There were, of course, cases where women were unhappy with the amount of money reimbursed. In the following case, the beneficiary expected to receive reimbursement to fifty percent of the cost of hospitalisation (a common misperception) and was disappointed to receive 1,200 rupees, the maximum amount provided by the Fund:

> *Respondent: And even during the operation we thought that if the expenditure is six thousand, then we get three thousand rupees. We thought this way, but we got only twelve hundred rupees.*
> *(BEN-SEWA 3)*

In several cases, despite having SEWA insurance, women had to borrow money in order to cover the costs of hospitalisation:

> *Interviewer: From that you got nine hundred and fifty (reimbursed by SEWA). And the remainder, how did you arrange?*
> *Respondent: By borrowing it only. By borrowing it. My nephews work as masons and do all that. So they give. My brother-in-law's sons. We borrow from them. And when we get money from work, we give it back.*
> *(BEN-SEWA 8)*

Women talked about the burden of costs that could not be included in a claim to SEWA. For example, one beneficiary of the scheme talked about the high costs of transportation for family members who came to visit her in hospital.

<u>Problems in compiling claims</u>

Many of the women who had submitted claims to SEWA experienced difficulties in compiling the necessary receipts and certificates. As well, they reported waiting three or more months between submission of a claim and reimbursement. The difficulty in compiling claims – doctors' certificates, hospital receipts, and pertinent laboratory reports – seems to result from (1) a lack of information among the insured regarding what documentation is required and (2) attempts by doctors to make

things difficult and/or extract money. In the following interview, one of the state-level Fund co-ordinators attributes delays in submitting claims to the members themselves:

> *Respondent: ...Whereas with our women, many times when they go to hospital they forget their bills there or they may not have requested. We also demand those documents and keep those documents. So many times it happens that beneficiaries claim after a long period – after 6 month, or after 12 month. And then we know that the claim cannot be passed. So now what we should tell them?*
> *(ADMIN-SEWA 3)*

Women talked about the difficulties involved in getting receipts and certificates from the medical doctors:

> *Respondent: Yes, some doctors do not give the certificate. They feel that they are not required to give anything. At times they do not even give the bills. So women come and tell us about it – that doctors do not give them the bills. So I go and talk to the doctors. Otherwise, fifty percent of doctors do not give the bills.*
> *Interviewer: Is it?*
> *Respondent: We had a meeting with some doctors and had explained to them our entire scheme. But there are certain doctors who still don't understand.*
> *(ADMIN-SEWA 4)*
>
> *Interviewer: When you take insurance, at that time sisters must be telling that if you have this disease and you are hospitalised—*
> *Respondent 1: They told us, "Give us the papers (document required by SEWA), then you will get reimbursement."*
> *Respondent 2: But how can we produce the papers, we can't get them.*
> *Interviewer: When we go to the hospital, do we take the receipts and all that immediately or—*
> *Respondent 3: They give the receipts. But when we go to take the certificate, they don't give it immediately... If we give money, they'll sign it. They'll sign if we give fifty to hundred rupees... For my daughter's certificate – she was admitted at Kanubhai's for three days – I had to pay him forty rupees for the certificate. After that he gave the certificate.*
> *(FGD-SEWA)*

In some cases the delays or difficulties arose only after the claims were submitted to SEWA, but very few seemed bothered by such delays:

> *Interviewer: So you had submitted the papers. Then, after how much time did you receive the money?*
> *Respondent: We got it after six months. We did not get it immediately.*
> *(BEN-SEWA 10)*

Choice of provider and quality and cost of care

Respondents denied that they had changed their choice of health care provider (for example, private versus public) as a result of having health insurance:

> *Interviewer: Sister you? What do you feel? Do you feel that after taking insurance you are able to get treatment in a better way, or is there no difference?*
> *Respondent 1: Same, before taking insurance and after taking, both were same.*
> *Interviewer: Don't you feel that as you have taken insurance you will get the money back, so because of that you go for a better treatment for yourself?*
> *Respondent 1: No sister, it is not so.*
> *(FGD-SEWA)*

Perhaps the only indication that the scheme had impacted on health care providers was a doctor who claimed that doctors who were aware of the SEWA scheme, knowing that it targets poorer women, might provide health care at reduced cost.

> *Respondent: Indirectly means, the doctors to whom these patients go, we help them as much as we can. Cost wise, we try to reduce it and provide them with the required papers for availing the benefit from the organisation.*
> *(PROV-SEWA 4)*

Awareness of insurance

Scheme administrators stated that levels of awareness of insurance and health insurance increased as a result of the scheme. One stated that increasing membership in the IIS in recent years resulted from women having experienced benefits, and then sharing their experiences with others:

> *Interviewer: But what is the reason behind the increase in membership? As you said, there is an increase in membership for so many years, and it has now come up to 1000 members?*
> *Respondent: Isn't it same reason, madam? Like at present they have taken insurance from which they received benefit. So another person will also say, "If I will take it then I will also get benefit in future." So this way, by sharing the experiences with each other, new women become our members. We take five rupees and make them a member (of SEWA union). And then further we make them such member (of the insurance scheme).*
> *(ADMIN-SEWA 5)*

A state-level co-ordinator made the claim that increasing levels of awareness have contributed to changes that have been made in the insurance scheme (for example,

the increased ceiling, and coverage of gynaecologic diseases):

> *Respondent: But when I see through my seven years of experience then, yes, women are more alert... We could make so many changes in the scheme only because now they are very alert. And so we can add new things to our insurance scheme... Many are aware and they come by themselves to pay the premium as and when they come to know that the insurance they have taken last year is soon to expire.*
> *(ADMIN-SEWA 3)*

Other comments on the strengths and weaknesses of the Fund

In a number of cases, respondents had lost their trust in the insurance scheme – usually due to problems of poor communication – and as a result, had discontinued their membership:

> *Respondent: Here, the whole neighbourhood had taken from (the SEWA worker). But, she comes only once a year to take the insurance. She never gives any benefit to anyone. If anyone is sick, she doesn't come to check. She did not give any benefit to anyone. So, everyone stopped paying. Otherwise, everyone used to pay.*
> *(BEN-SEWA 2)*

Similarly, the following respondent felt that more regular communication from the IIS to its members was required:

> *Respondent: ...the organisation should be such that they come and ask us. Every month or fifteen days they make a visit and they should ask the members, "do you have any problem?"... If they can't come, it is okay. But, if they write a letter, "do you have any difficulty", to the members. "If you have any difficulty, tell us so that we can come." Or else, if you need, they can come. If the organisation does something like that, then there is no harm in joining it. But, if they don't even look at us, then hatred arises.*
> *(BEN-SEWA 4)*

One respondent had at one time submitted a health insurance claim to a local SEWA representative, but her claim had been lost:

> *Respondent: ...As my papers were lost, I lost hope. We had to incur four or five thousand in the hospital. Sister had said that, "you will get half benefit", but what benefit did I get? Did I get? The papers are lost somewhere. You just think. Why should we pay one hundred fifty rupees? Why should we work hard to pay the money? We pay the insurance first of all and don't even give food to our children. If we get some benefit then only we will pay, otherwise why will we pay?*
> *(BEN-SEWA 7)*

A few respondents complained about the failure of the IIS to cover household

members other than adult females. In the following case, the husband of a current member had refused her future enrolment if the scheme were not changed to cover other family members.

> *Interviewer: Do you feel that any changes should be made?*
> *Respondent: He (my husband) is refusing to pay. He says, "Only you are getting, so why should we pay? We don't want to pay." But, I say that we are not able to save any money at home. So, we should pay.*
> *Interviewer: Is your husband refusing?*
> *Respondent: He is refusing. But, this time I paid. He is refusing to pay next year. Because of that. He says, "Only you are getting. Nobody else is getting the benefit. So why should we pay?"*
> *Interviewer: So, who else should get?*
> *Respondent: He says, "At least children can get. If I don't get, it is okay. Children fall sick often. So, if they get, it is good."*
> *(BEN-SEWA 10)*

Administrators and the external donor (perhaps not surprisingly) generally felt that the IIS was functioning well, and attributed its success to a variety of different factors. The doctor responsible for reviewing claims at SEWA attributed the success of the scheme in part to good management:

> *Respondent: That is, because of the whole team-work. In the sense that our health worker, our co-ordinator, all these people, they have prepared the claims in such a way that my work is very smooth. I have to look after only medical aspect. And even for that, now, they are also accustomed, they are, they also know everything (including the medical aspects) in details. So, that in that way I think that our scheme is running very well...*
> *(ADMIN-SEWA 1)*

Another state-level employee of SEWA felt that the scheme was a success in part due to strong leadership:

> *Respondent: Jaihreeben Vyas and Miraiben Chatterjee, there is a major contribution of these two, because of whom we could do so much. Otherwise we could not have even thought of decentralisation. And also could not have thought of managing our own health insurance scheme. It was only because Miraiben was there, so we could think over it. Because she has done her doctorate in this. So, she felt that when we were insuring in collaboration with the UIIC (United India Insurance Company) women were not getting much benefit. And we could also see that it is true.*
> *(ADMIN-SEWA 3)*

A representative of the external donor felt that the IIS had been successful (in terms of attracting new members) in part because of strong affiliation and the sense of community among SEWA members – that SEWA members seemed to be jumping

on the insurance band-wagon:

> *Respondent: ...I mean SEWA is also always saying that, "well, look at the numbers, we can constantly raise the numbers of insured people, and this also shows the success." I think this is on one hand this is certainly true. On the other hand I believe this also very much related to the strong affiliation of being a SEWA member and belonging to this SEWA community, and having access to the services. And if there is a new service, and they can afford it, they also they just jump on it. Because it is SEWA.*
> *(DONOR-SEWA 1)*

DISCUSSION

Summary of findings

Some women currently enrolled in the IIS were unaware of the scheme and their membership in it. Even among members who were aware of the IIS, the decision to join the scheme was often made by, or in collaboration with, other (often male) household members. Cost of membership and the availability of money were important in determining whether women would join. Beneficiaries who were aware of the IIS, seemed to perceive the life insurance as the major benefit, while a top-level scheme administrator described the holistic nature of the scheme, addressing various problems in members "lives" and "livelihoods". Finally, beneficiaries who were aware of the Fund described its benefits in financial terms, while administrators discussed who should be covered under the Fund, how and when the reimbursement should be provided, and non-financial benefits of the scheme.

For the most part, members who received reimbursement from the Fund seemed satisfied with the amount received, although they did acknowledge that there were expenditures beyond the direct expenditures that could be included in the claim. Many of the women who had submitted claims to SEWA experienced difficulties in compiling the necessary receipts and certificates. This was due to attempts by doctors to make the process difficult and/or to extract money and a lack of information among the insured regarding the required documentation. In a number of cases, respondents had lost their trust in the insurance scheme – usually due to

problems of poor communication – and as a result, had discontinued their membership. Administrators and the external donor (perhaps not surprisingly) generally felt that the IIS was functioning well, and attributed its success to good management, strong leadership, and the strong sense of affiliation among SEWA members.

Critique of methodology

Initially, guidelines for the interviews (Appendix 5) were based on inaccurate assumptions. At the commencement of the study, the researcher was under the mistaken impression that:

- Members of the IIS would be aware of the IIS, their membership in it, and would therefore be familiar with the concept of insurance;
- Members would be able to discuss the relatively abstract concept "What factors account for the scheme's success, or lack of it?"

In fact, these relatively abstract concepts were difficult for people to discuss, even those who were intimately associated with the two CBHI schemes (for example, administrators). For this reason, as the study progressed, the interviews increasingly focused on very concrete events (such as specific hospitalisations, failure to pay an insurance premium, delay in receiving reimbursement by a scheme, etc.) However, during the course of the study, the interview schedule was probably not changed as much as it should have been in order to optimise the yield of the interviews. If interviews had been analysed in parallel with data collection, later interviews could better have been tailored to the knowledge and experience of respondents. For example, less time would likely have been spent discussing respondents' knowledge (or lack thereof) regarding SEWA's Fund, and more spent discussing the concept of insurance and risk protection.

As already mentioned in the qualitative sub-study for TF's hospital referral scheme (Chapter 7) a more exploratory (i.e. less structured) approach to interviewing might have been more appropriate, particularly for investigating the "social perspective".

Discussion and interpretation of findings

Following the literature review, it was hypothesised that participants would have in mind many goals for the Fund in addition to such traditional goals as coverage of the poor and financial protection of households. However, almost none of the participants mentioned potential "social consequences" of health insurance. The data do not suggest that the Fund had impacted on the locus of medical decision-making, the status of the allopathic medical profession, access to medical care, mechanisms of gift-giving or the nature and prevalence of risky behaviour. Rather, the data suggest that financial protection was the primary goal among all participants. The fact that social consequences did not come out in the interviews may reflect:

1/ Truth. Perhaps the Fund did not have – nor was it expected to have – much impact outside the realm of the economic measures of health insurance.

2/ Failure of the interviewers to question adequately around topics that were somewhat abstract and potentially sensitive (e.g. female participation in medical decision making).

3/ Lack of awareness among beneficiaries of social consequences that the Fund had indeed had – i.e. perhaps qualitative modes of inquiry were not sufficiently "sensitive". This raises the question whether other methodologies could have been used instead.

In the case of SEWA's Medical Insurance Fund, the first (i.e. that the scheme did not have social consequences) is likely to be of greatest importance. To almost all participants, insurance and health insurance were relatively new concepts, and people did not seem to have thought of impact outside of what they have been told by their local SEWA leaders. And although financial support for hospitalisation was often provided through informal networks (see Appendix 11), respondents did not suggest that there were any similarities between these networks and the formal insurance scheme under investigation. Even among those who were members of the Fund, levels of knowledge and awareness about the SEWA scheme, and about health insurance more generally, were low. Perhaps as women are provided with

more information about the scheme, and as utilisation increases, participants will develop a greater awareness of potential or actual non-financial benefits of the Fund.

Certain aspects of scheme design and management were likely to have been important in determining the scheme's impact. Firstly, while SEWA was able to attract many members through its membership campaigns, the level of awareness – both around membership in the scheme, and the benefits available – was low among some members. This may have limited the ability of women to make use of their membership. Secondly, while the scheme targeted females, it was clear from the interviews that decision-making around membership in the scheme was often done by the whole family, or by males in the household. While the scheme was clearly oriented towards women, failure to interact with female household members may have resulted in the exclusion of some women from the Fund. Thirdly, in order to keep members satisfied with the scheme, it is important to make the claims process fast and relatively easy. It seems that compiling doctors' certificates and receipts was the most difficult part of the claims process. Such difficulties resulted in women spending more time, energy and money in compiling their claims, and may have deterred some women from submitting claims.

It seems likely that the nesting of the IIS within a larger development organisation was beneficial for the Scheme in several ways. Compared to non-members with similar income, members of the SEWA trade union may have had better access to credit, savings accounts, etc., and as such they may have had greater demand for insurance – perhaps both increased need because they were sufficiently stable to make plans for the future, and increased ability to pay because they had more disposable income/credit. On the supply side, it is likely that the physical and managerial infrastructure used by other branches of SEWA (for example, SEWA Bank and SEWA Academy) contributed to the IIS's (and thus the Fund's) success, reflected in the following statement:

> *...In reality, it should always be remembered that it was through its bargaining power and credibility that SEWA was able to obtain certain advantages at the political and institutional level. Similarly, it was able to*

> *draw on the infrastructure, networks and management systems that it had created to conduct its other activities (ILO 2001, p. 80).*

The other services provided by SEWA may also have served to develop a sense of trust and dedication in SEWA and its management among members. Indeed, some respondents suggested that trust among beneficiaries in the SEWA was important to success of the IIS.

The interviews provided some evidence to suggest that "affiliation" with other members and sense of community were instrumental in increasing membership in the IIS. However, there was no evidence that higher levels of social consciousness or solidarity served to decrease adverse selection, free-riding or fraud. There are two potential reasons as to why SEWA members would not see it as "wrong" that the young and healthy abstain from insurance while the old and infirm join. Firstly, women seemed to join the insurance scheme for their own benefit and for the benefit of their household. Their desire to secure household finances, by insuring those who were most likely to fall ill, may have outweighed their desire to help balance the risk pool, particularly if doing so meant spending a significant amount of money to insure someone who was young and healthy. Secondly, it was not evident that SEWA insured had an awareness of risk-pooling (or the healthy subsidising the health care costs of the less healthy).

This study found beneficiaries to possess little information about the Fund and its benefits. This may reflect:

1/ Failure of SEWA to provide women with adequate education at the time of enrolment;

2/ Members having been so overwhelmed with information about the IIS (for example, life insurance) that they forgot the bits about the Fund, combined with a failure by SEWA to periodically re-educate women around the scheme;

3/ An inability of members to understand the complexities of insurance.

The former explanation seems to be the most likely. It may be that the emphasis at SEWA (as is reflected in the "administrator" interviews) was to increase enrolment

under the IIS, with less thought/concern to more "distal" outcomes (such as increased hospital utilisation, and improved health status). Getting a woman into the scheme may have been seen as an end in itself, with less concern as to whether or not she actually made use of the membership. Future investigation at the village level could look into the relative emphasis that SEWA leaders (the village-level representatives) put on enrolment versus education. SEWA leaders do not receive any kind of financial incentive for increasing IIS enrolment in their area, but they undoubtedly receive praise and recognition within the organisation for bringing in new members. Perhaps incentive mechanisms (financial and/or other) could be put in place for SEWA leaders to improve knowledge about the Fund among their target population (perhaps measurable by looking at rates of submitted medical insurance claims per member).

It was disheartening, but not so surprising, to hear many of the beneficiaries tell of the problems faced in obtaining medical certificates from their doctors. This appeared to be a common phenomenon, and could in part explain low rates of claims submission and the very significant delays between discharge from hospital and submission of the insurance claim (on average, 55 days; see Chapter 9). One would like to think (perhaps unrealistically) that providing doctors with information about the Fund, and its target population (largely poor and illiterate) would prevent such behaviour. As well, improving education among beneficiaries might increase the frequency with which they request the necessary paperwork prior to discharge from hospital. However, given the context – user fees, both formal and informal (i.e. bribes) are charged by public and private providers alike, often for doing nothing more than spending a few minutes writing a prescription – it will likely be impossible to get all providers to discontinue this rent-seeking behaviour. The solution may lie in SEWA restricting its benefits to a limited number of providers who could submit bills directly to the Fund's insurance panel. This, of course, would have implications for geographic access and consumer choice.

Conclusions and policy implications

This study highlights some of the difficulties encountered by CBHI schemes. Firstly, the baseline understanding of insurance and solidarity may be absent or limited. The insurer may have to invest a great deal of time, money and energy to educate participants in the scheme (target population, health care providers, and scheme employees) around the concept of insurance and health insurance. Furthermore, it is not enough to provide education at the outset – it appears that education and communication about the scheme and its benefits should be regularly repeated. Secondly, this research suggests that it is difficult to target insurance towards certain individuals within households. This is because the individuals who are most likely to be targeted for reasons of equity or on the basis of medical need (women, elderly, children, chronically ill) may not be in a position to make decisions, either about their membership in such a scheme, or around seeking medical care. Thirdly, lack of formal ties, or direct communication, between the insurer and health care providers can hinder the impact of CBHI schemes. Mechanisms may have to be put in place to ensure that providers working in collaboration with a CBHI scheme have an interest in caring for members and will not hinder the processing of their claims. Fourthly, in order to keep members satisfied with a scheme, the process for claiming benefits should be fast, easy and inexpensive. Fifthly, nesting a CBHI scheme within a parent organisation may create an enabling context for CBHI, by improving the economic condition of its members, providing managerial infrastructure and support, and helping to establish a sense of trust in the insurer. Finally, a sense of community among the target population, and possibly some history of collaborating in other ventures (such as savings or credit schemes) may be a determinant of success in terms of increasing scheme membership.

SECTION 4: DISCUSSION, CONCLUSION AND POLICY IMPLICATIONS

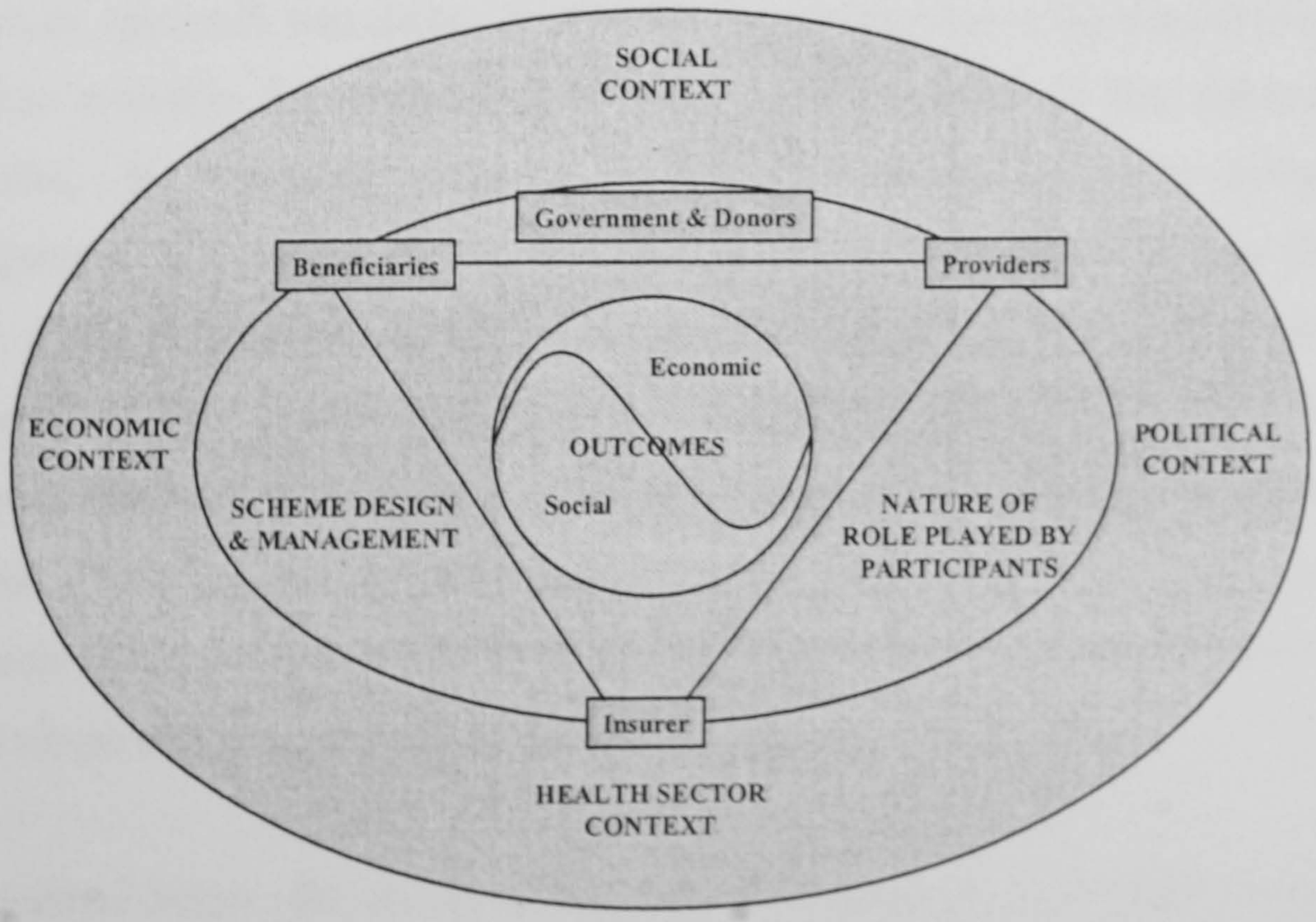
CHAPTER 11: DISCUSSION OF FINDINGS

INTRODUCTION

This chapter discusses the strengths and weaknesses of the methods used, summarises the findings of the two case studies, and compares findings between the case studies.

The thesis set out to explore the impact of CBHI schemes, and the factors contributing to success or lack thereof. A broad literature review in Chapter 3 gave rise to a framework which illustrated the dual nature of outcomes – economic and social – and the many factors that potentially contribute to the success (or failure) of CBHI. The framework, presented again below as Figure 11.1, was used as the theoretical framework for the case studies.

Figure 11.1: Objectives and contextual determinants of success for CBHI schemes



The two schemes were quite different in terms of scheme design and management, and the broader context in which they functioned (e.g. TF linked to the dairy co-operative, and SEWA to a union for the self-employed). Table 4.4 highlighted the main differences between the two schemes. On the one hand, the differences between the two schemes make it possible to explore the influence of context in greater detail than if only one case (one combination of factors) had been studied. On the other hand, the ability to address context, and its impact upon scheme processes and outcomes, is limited because there are only two schemes, and many of the potentially important contextual variables are the same for the two schemes.

This chapter considers some of the strengths and weaknesses of the methodology of the study, and then summarises the findings of the two case studies. Findings highlighted by a comparison between the case studies are then discussed.

METHODOLOGICAL AND DATA ISSUES

In India, as in other developing countries, CBHI schemes are relatively rare, and it is unusual to find more than one scheme operating in a single geographic area. The case-study approach was chosen for this study both because of the limited number of schemes available for study, and the very complex nature of the schemes – in particular, the complex associations between context, scheme design and management, and outcomes. At the outset, it was seen as beneficial that the case-study approach allowed starting with specific research questions (the deductive approach) as well as with broader questions that could be refined in the course of fieldwork (the inductive approach). Furthermore, by allowing the use of different methods (both qualitative and quantitative) it was thought that the case-study approach would produce findings that were more comprehensive and valid than if only a single method had been employed.

As described below, the choice of the case-study approach was largely justified in terms of the comprehensiveness and quality of the data. This section will first

briefly summarise the methodological issues already raised in the results chapters (Chapters 5 through 10), and will then discuss broader methodological issues.

Methodological issues: household survey

The household survey had several major strengths. In general, the survey data probably provide an accurate snapshot of households across the district. This results from: the wide scope of the survey (households in thirty villages); the random selection of both villages and households; extremely low rates of non-participation; and the reliability of responses provided to key questions (see Appendix 11). Furthermore, the household survey produced findings that were immediately useful to the scheme administrators, particularly around the very low rates of scheme utilisation relative to overall rates of hospitalisation.

The two greatest problems with the household survey were small sample size and the reliance on assets (in the form of the Economic Status Index) as a proxy for household wealth.

Small sample size may have resulted in false negative findings, particularly with respect to the (low frequency) outcomes "probability of hospitalisation over one year" and "net annual hospital costs per person hospitalised". This small sample size resulted from a variety of factors. Firstly, the outcome variable that was used in calculating sample size, "prevalence of substituting for expenditures on food, agricultural development and education (at any time over one year) in order to pay for medical care", could not be analysed. Respondents were not able to answer the relevant question, which was removed from the final version of the questionnaire. Two of the outcome events ultimately analysed (frequency of hospitalisation, and costs per person hospitalised) were actually much rarer than "prevalence of substituting..." (hypothesised to occur among 20% of non-insured households and 10% of insured households), with a resulting drop in the power of the models to detect a difference. Secondly, the mis-classification of households resulted in many households being dropped from the analysis. This was particularly problematic for

SEWA; many households were identified by SEWA as including a Fund member, when in fact they did not.

The concern with the assets index (ESI) is that it may not accurately reflect the wealth of households, or more specifically, wealth insofar as it is facilitates or hinders health care seeking. Worryingly, questions regarding household assets elicited relatively (in comparison to other questions in the survey) non-reliable results. A similar index has performed well in other settings, correlating with consumption expenditures (Filmer and Pritchett 2001). And in the survey, the ESI was strongly correlated with interviewers' assessments of wealth and with daily household expenditures on food. In retrospect, it would have bee useful to collect more detailed information on household expenditures; total expenditures could have been used as a proxy for wealth or at least could have been used in validating the ESI. Consumption expenditures per adult is the preferred measure of living standards used in the World Bank's Living Standard Measurement Study (LSMS) surveys. Many researchers are looking into proxy measures (other than the ESI) that can be administered more quickly and inexpensively (Grosh and Baker 1995; Montgomery, et al. 1999; Morris, et al. 2000).

Methodological issues: scheme utilisation data

The strength of the scheme utilisation data was that it revealed much about the financial protection conferred on members of the two schemes. Such information could not be obtained from the household survey due to the low rates of hospitalisation and scheme utilisation.

One problem with the data was lack of, or potentially inaccurate, information on household income. Bills submitted by Shri Krishna Hospital to TF included no information regarding the members' income, while all insurance claims submitted to SEWA included the claimant's self-reported, annual household income. For both TF and for SEWA, impact was assessed in terms of "percentage of hospitalisations that would have been catastrophic" (i.e. would have consumed greater than 10% of

mean annual household income), comparing figures pre- and post-reimbursement. For TF, the same income range was assumed for all households (based on data from SEWA and the household survey), while for SEWA, the actual incomes reported by claimants were used. The calculations for TF may bias the impact of the scheme; it is feasible that this bias could be in either direction. For example, if household income was correlated with hospital spending at Shri Krishna Hospital, then the frequency of catastrophic costs would be lower than estimated. Conversely, if TF members who use Shri Krishna Hospital are relatively poor compared with all TF members then the frequency of catastrophic costs would be higher than estimated (and the impact of the scheme, potentially greater). For SEWA, it is unclear how accurate the income data were. The insured may have misreported household income either intentionally, or because they were unsure of the true amount. For both schemes, the estimates based on income must be interpreted with caution, and direct comparisons between the schemes based on these estimates will not be made, given potential bias in the TF data.

A second problem was the absence of information on indirect costs of hospitalisation. For both schemes, data were available on the direct costs of hospitalisation (for example, doctors' fees, bed fees, some medications and food) but not the indirect costs (e.g. transportation, bribes and gifts paid to health care providers, food for visiting friends/family) which in this setting can be substantial. By using low estimates of "total expenditure", the calculations have thus overestimated the impact of the two schemes in terms of reducing the expenditure burden and reducing the frequency of catastrophic expenditures.

Methodological issues: qualitative interviews

Qualitative interviews were employed to collect data relevant to all of the study objectives. The interview data had several strengths. Firstly, the relatively large number of interviews conducted meant that I was able to confirm findings across individuals and different villages. While not a random sample, hearing that some views and experiences were consistent across the fairly large number of people did

increase my confidence in the internal validity of the data. Secondly, triangulation by source of data was possible because people who had different roles in the schemes were interviewed (i.e. beneficiaries, providers and administrators). For example, the fact that both beneficiaries and administrators of the TF's hospital referral scheme thought of it as a charity rather than insurance added to the credibility of this finding. Finally, the interviews proved useful insofar as they could be used to confirm, and seek the reasons underlying, some of the quantitative findings. The interviews, for example, provided information useful in developing hypotheses around the very low rates of utilisation of the two schemes. Data from the interviews were also used to explore the fact that many of the SEWA claims were for hysterectomy care (see Ranson and John 2001, Appendix 12).

There were several weaknesses in the methods used in collecting and analysing the qualitative data: problems with the interview schedules based on incorrect *ex ante* assumptions; lack of discussion around social consequences/determinants, and uncertainty as to whether this reflected "truth" versus "false negative".

Going into the interviews, the researcher had unrealistic expectations as to what discussants (particularly beneficiaries) would be interested in, and able to discuss. More specifically, in every interview, respondents were probed for their knowledge and views around "insurance" and "health insurance". It was common, however, for respondents (i) not to know of a specific insurance scheme (i.e. not to know anything about TF or SEWA *or* not to perceive these schemes as insurance) and (ii) not to have an understanding of insurance (or an understanding in which they had sufficient confidence to voice). While it was evident during data collection that respondents had little knowledge regarding insurance, it was not until all interviews were completed and analysis was well under way that the scope of the problem became clear. If interviews had been analysed in parallel with data collection, later interviews could better have been tailored to the knowledge and experience of respondents. For example, less time would likely have been spent discussing respondents' knowledge (or lack thereof) of insurance and risk protection, and more

time spent discussing people's expectations of, and experience with, TF and SEWA.

One of the main findings of the qualitative interviews was that the social perspective appeared to be of minor importance with respect to the consequences, and factors underlying, these two schemes. However, these negative findings may not reflect truth i.e. they may be false-negative findings. False negatives occur when the method of inquiry (in this case, qualitative interviews) is not adequately sensitive in terms of detecting the phenomena in question. Perhaps beneficiaries simply lack an awareness of social consequences and/or social capital, even where they do exist. Or possibly the interviewers failed to question adequately around topics that are somewhat abstract and potentially sensitive (e.g. female participation in medical decision making or trust among SEWA members). In fact, there probably was some element of both "true negative" and "false negative". On the one hand, many respondents were entirely unaware of their respective schemes, and relatively few respondents had actually used the schemes themselves, so it was not surprising that people had not been affected by the schemes. On the other hand, it is possible that the semi-structured approach to interviewing interfered with the emergence of some topics, such as the social consequences and determinants of CBHI. It is possible that such subtle associations might better have been investigated using a less structured, more exploratory, approach to interviewing.

Broader methodological issues

This section discusses how the case-study methodology proved to be well suited to the study objectives and setting, and briefly discusses the generalisability of the results.

Firstly, the case-study methodology made it possible to go into some depth in investigating the scheme outcomes, design, context, and the complex inter-relationships between these. A previous study of "pre-payment" schemes in India had looked at both TF and SEWA, but focusing on aspects of design and management (as described by scheme administrators) (Dave 1993). Dave's study

did not capture many of the intricacies of the schemes, for example, the fact that TF members were permitted to purchase membership after falling ill. Having ample time to devote to these two schemes was important in that it allowed the researcher to pursue (in the final qualitative interviews) the reasons as to why scheme utilisation rates were low.

Secondly, by using a variety of different methods, it was possible to take the findings made using one method and confirm them using a second i.e. to triangulate using different methods. For example, together the household survey and scheme utilisation data provided strong evidence for low rates of utilisation of both schemes. Similarly, both the scheme utilisation data and the interview data suggested that among those who used the schemes, rates of reimbursement were high in comparison to direct hospital expenditures. Triangulation across methods added greatly to the internal validity or credibility of the study.

Thirdly, the inductive nature of the case-study approach – the fact that it was possible to pursue some new questions as they arose – contributed directly to the internal validity and to the usefulness of the study's findings. The internal validity of the study was enhanced because it was possible to look into (using qualitative methods) factors underlying some of the quantitative findings. For example, some of the potential reasons underlying low rates of utilisation of both schemes were explored, as was the long lag time between hospitalisation and reimbursement under SEWA's Fund. The utility of the study was increased because findings of particular interest to scheme administrators could be pursued. For example, based on the finding that almost 10% of all claims submitted under the SEWA scheme were for hysterectomy care, further qualitative research around the quality of hysterectomy care available to SEWA's members was carried out (see Ranson and John 2001, Appendix 12).

Because only two schemes were examined, the degree of variation in terms of design, management and context observed was necessarily limited. Some of the

findings are thus quite limited in terms of their generalisability. It is, for example, difficult to make generalisations regarding low levels of awareness (regarding the hospital referral scheme) among TF members, or restriction of benefits under the TF scheme to a single hospital, given the relatively unique and unsustainable condition of its finances at the time of the study. Other findings of the study support prior understanding or theories around CBHI, and thus can be generalised, with some caution, to other settings. For example, the donor funding so heavily relied upon by TF's hospital referral scheme ultimately proved inadequate as TF scheme membership and costs per hospitalisation rose. At SEWA, the cap on insurance benefits limited the impact that reimbursement had in terms of preventing indebtedness (or "catastrophic expenditures") particularly among those who experienced the most expensive hospitalisations. Finally, some of the findings that were not specific to either of the schemes, and that were consistent with previous empirical studies, can more easily be generalised. For example, in line with the work of other investigators, credit (borrowing) was found to be a very common source of protecting households against financial shocks.

SUMMARY OF FINDINGS

This section summarises the main findings for TF (drawing together findings from Chapters 5 to 7) and then SEWA (Chapters 8 to 10). As these findings have already been discussed in preceding chapters, discussion is limited here to instances where findings from different chapters (and thus methods) are inconsistent with one another. Findings are presented here according to (and generally in the same order as) the categories and sub-categories laid out in the theoretical framework of the research methodology (Table 3.4): (i) impact; (ii) context; and (iii) scheme design and management.

Findings related to the scheme's impact

Access to health care – Rates of utilisation of the hospital referral scheme were very low in comparison to overall rates of hospitalisation. In the household survey (Ch. 5) less than 10% of TF-member hospitalisations (only 7 of 77) were taken at a private-non-profit hospital (including Shri Krishna). Analysis of the utilisation database revealed that the frequency of use of Shri Krisha Hospital by TF members (3.2/1,000 members/year, 1996 to 2000) was only 3.5% to 7.4% of the mean rate of hospitalisation found in other studies in Gujarat state (Ch. 6). Rates of scheme utilisation were lowest for residents of talukas farthest from Shri Krishna Hospital (Ch. 6). There was no evidence that membership in TF resulted in increased access to inpatient care. Rather, the household survey (Ch. 5) revealed significantly lower rates of hospitalisation among TF members (roughly half) in comparison to controls.

Protection from the costs of health care – In general, membership in TF was not associated with reduced annual hospital expenditures (net of discount) per person hospitalised, perhaps reflecting very low rates of scheme utilisation (Ch. 5). Among TF members who used Shri Krishna Hospital, some discount was provided to 90% and the median rate of discount was 48% (mean 55%) (Ch. 6). The mean rate of reimbursement varied relatively little from the least expensive hospitalisations (66% among the least expensive quintile) to the most expensive (44% among most expensive). Even after discount, a small percentage (some 5 to 11%) of hospitalisations taken at Shri Krishna Hospital were likely to have been catastrophic to members (i.e. expenditures >10% of mean household income). Consistent with the quantitative findings, interviews revealed that TF members who had used the Shri Krishna generally received a sizeable discount, typically of fifty percent or more. Some who received a discount reported going into debt (borrowing or selling assets) to pay for the hospitalisation (Ch. 7).

Equity of access – The study revealed nothing about the relative cost of, or access to,

hospital services by socio-economic group under the TF scheme. Several findings suggest that the scheme had not effectively targeted the groups identified as "neediest" by scheme administrators, i.e. the poor, women and children. There was a non-significant trend towards higher levels of wealth among members of the TF scheme, compared to non-members (Ch. 5). Rates of utilisation of Shri Krishna Hospital were as high among men as women, and among adults as children (Ch. 6).

Financial sustainability – Late in 1999, the hospital referral scheme was completely discontinued due to refusal by Shri Krishna Hospital to incur further debt in caring for TF inpatients.

Consumer satisfaction – Among members, there were no complaints about the process of seeking discounts from TF, but administrators reported that this process had become increasingly difficult for members as a result of linking the amount of discount inversely to wealth (Ch. 7).

Social areas of impact – No direct evidence (see discussion below).

Findings related to context

Social context – No direct evidence (see discussion below).

Findings related to scheme design and management

Premium – All participants thought the premium to be low, and this was one of the reasons cited by beneficiaries as to why the hospital referral scheme could not be considered as insurance (Ch. 7).

Premium collection – Many interview respondents reported that the premium was taken automatically by the dairy secretary with only minimal (or no) discussion with beneficiaries (Ch. 7). When membership was voluntary, it was most often the male household head who had paid it.

Access to, and quality of, benefits – Those who were hospitalised at Shri Krishna Hospital were generally impressed with the quality of service provided, although there were many complaints about its location and the indirect costs of hospitalisation (Ch. 7). The quality of health care services were perceived by some to be low (e.g. too large and impersonal, too many student doctors and nurses).

Mechanisms to prevent (or encourage) adverse selection – Several people reported purchasing a card specifically to access the referral services only after someone in the household had fallen ill. Administrators acknowledged that this was allowed, and in some cases, encouraged (Ch. 7).

Links with other organisations –TF was perceived by beneficiaries to be linked to the local dairy co-operatives, and many TF members thought that membership in TF was restricted to those who deposit milk at the local dairy co-operatives (Ch. 7). The household survey (Ch. 5) confirmed that farmers (including dairy farmers) were significantly more likely to have joined the scheme than those of various other occupational categories.

Financial management – All of TF's central administrators acknowledged that the scheme had encountered difficulties as a result of unsustainable financing. On the one hand, there was the expectation among some members of free hospitalisation, while on the other hand, membership fees were very low (and fixed) with the majority of scheme costs covered by external funding which was also fixed (Ch. 7).

Community involvement – The current director of the scheme suggested that one of the strengths of the TF scheme was that the dairy cooperatives were involved in the running of the scheme (Ch. 7). It was not clear whether, or to what extent, the broader community (i.e. those outside dairy co-operative administration) had been engaged.

Underlying objectives – Administrators of TF cited as the main objective of the

broader organisation the provision of preventive and primary health care services, targeted towards poorer women and children. The hospital referral scheme arose out of the perceived need for affordable inpatient care, and the desire of administrators at Shri Krishna Hospital to increase utilisation of the facility. Members of TF were often unaware of the hospital referral scheme, but those who were cited discounted hospital costs as the primary benefit (Ch. 7).

Information, education and communication – Members of TF were often unaware of their membership in the scheme. Lack of awareness appeared to be more common among women (Ch 7).

SEWA's Medical Insurance Fund

Findings related to the scheme's impact

Access to health care – Rates of utilisation of the Fund were low in relation to overall rates of hospitalisation. Among Fund members in the household survey, there were 28 hospitalisations, and *only* 5 of these hospitalisations (18%) were reimbursed by SEWA (Ch. 8). Similarly, analysis of all claims submitted to SEWA revealed that the rate of claims submission (18/1,000 Fund members/year) accounted for only a fraction (roughly 22% to 37%) of all hospitalisations among claimants (Ch. 9). Overall, the frequency of claims submission was 1.7 times higher among those with lifetime versus annual membership in the scheme. There was no significant association between membership in the Fund and frequency of hospitalisation (Ch. 8).

Protection from the costs of health care – In the household survey, there was insufficient data to draw conclusions about the association between membership in the Fund and hospital expenditures per annum (Ch. 8). In the analysis of the claims database, of all claims submitted to SEWA, 11% were rejected. Among claims that were reimbursed, the median level of reimbursement was 93% (and the mean 77%) (Ch. 9). There was considerable variation in level of reimbursement by total

hospital expenditure: the least expensive quintile of hospitalisations was reimbursed to 100% while the most expensive was reimbursed to only 29%. Reimbursement more than halved the frequency with which hospitalisations would have been catastrophic (i.e. would have accounted for >10% of annual household income) from 36% to 15%. Protection from catastrophic costs was greatest among the poorest households, for example, among the poorest quintile of claimants, reimbursement decreased the frequency with which hospitalisations would have been catastrophic from 72% to 25%. In the two most recent years, lag time between hospital discharge and reimbursement was just over three months.

Consistent with the quantitative findings, qualitative interviews revealed that members who received reimbursement were generally satisfied with the amount received, although they did acknowledge that there were costs beyond the direct costs that could be included in the claim. In several cases, despite having SEWA insurance, women had to borrow money in order to cover the costs of hospitalisation (Ch. 10).

Equity of access – Older age and higher frequency of illness episodes within the last month were significantly associated with membership in the Fund (Ch. 8). Wealth was not significantly associated with membership in the Fund (Ch. 8). Data on self-reported annual household income provided by claimants suggest that levels of poverty among SEWA claimants are comparable to the general population of Gujarat (Ch. 9). Although there have been improvements over the two most recent fiscal years, claimants living in rural areas and claimants working in the agriculture sector waited significantly longer for reimbursement (Ch. 9).

Consumer satisfaction – Many of the women who had submitted claims to SEWA experienced difficulties in compiling the necessary receipts and certificates. As well, they reported waiting three or more months between submission of a claim and reimbursement (Ch. 10). However, they generally did not attribute the delays to a problem with SEWA, but rather to the doctors who were required to provide receipts

and certificates.

Quality of health care – Respondents denied that they had changed their choice of health care provider (for example, private versus public) as a result of having health insurance (Ch. 10).

Social areas of impact – No direct evidence (see discussion below).

Findings related to context

Social context – A representative of the external donor felt that the IIS had been successful (in terms of attracting new members) in part because of strong affiliation and the sense of community among SEWA members (Ch. 10).

Findings related to scheme design or management

Premium – The membership fee is sufficiently high as to act as a deterrent (for some) to joining the scheme (Ch. 10). Male respondents suggested that the premium be collected during the harvest, as money was more likely to be available at that time.

Premium collection – At least in some cases, household members (often male) other than the insured woman, had purchased the insurance, and this seemed to be associated with lower levels of knowledge among those who had not paid for themselves (Ch. 10).

Claims process – The difficulty in compiling claims – doctors' certificates, hospital receipts, and pertinent laboratory reports – seems to result from (1) a lack of information among the insured regarding what documentation is required and (2) attempts by doctors to make things difficult and/or extract money.

Trust and links with other organisations – Members' trust in SEWA Union (and the various smaller organisations that fall under it) was thought to influence their

decision to join the IIS. In a number of cases, respondents had lost their trust in the insurance scheme – usually due to problems of poor communication – and as a result, had discontinued their membership (Ch. 10).

Decentralisation – Until recently (the last two years) the lag time between discharge from hospital and reimbursement was longer among claimants living in rural areas (and claimants who reported working primarily in the agriculture sector) (Ch. 9). Coinciding with "decentralisation" of the claims process (the opening of the Anand claims office) lag time decreased significantly, and the differences by district and occupation virtually disappeared.

Management/leadership – Administrators of the SEWA scheme attributed the success of the Fund in part to good management and strong leadership (Ch. 10).

Underlying objectives – Beneficiaries (who were aware of the Fund) felt that its primary objective should be to cover (very specifically, half of) hospital costs. Scheme administrators expressed various goals for the Fund, including: high levels of coverage of all SEWA members, fast and facile processing of claims, and increased awareness among members of their own health and issues of quality of health care (Ch. 10).

Information, education and communication – Some SEWA insured women were unaware of the IIS or their membership in it (Ch. 10).

Exclusion of other family members – Few respondents complained about the failure of the IIS to cover household members other than adult females (Ch. 10).

DISCUSSION OF KEY OVERALL FINDINGS FROM THE CASE STUDIES

This section compares findings from the two case-studies, and discusses these findings in the context of previous research on CBHI. The section is divided according to the indicators of scheme *impact* for which this study provided data:

- scheme utilisation and access to hospitalisation (thesis Objective 1);
- protection from the costs of hospital care (Objective 2);
- coverage by the scheme and targeting of the poor, and equity of access to benefits (Objective 3);
- social consequences (Objective 4);
- sustainability, financial and managerial.

Each sub-section opens with a comparison of the findings for the two schemes, followed by discussion that draws links between the impact findings, and underlying aspects of scheme context, design and management (thus addressing Objective 5).

Scheme utilisation and access to hospitalisation

Relative to overall rates of hospitalisation, rates of utilisation both of TF's hospital referral scheme and SEWA's Fund were very low. Given this, it was perhaps not surprising that neither of the schemes had resulted in increased access to hospitalisation among members relative to controls.

There are reasons to expect that once enrolled in an insurance scheme that covers some portion of hospital costs, one would make use of it. Qualitative findings (presented in Appendix 11) suggest that the costs of seeking health care in this rural district were high relative to income. Perceived cost of health care and the availability of money in the household were important determinants of whether, where (what type) and how much health care was sought. Bennett, et al. (1998, p. 19) suggest that user-fees (including at government facilities) "may be essential if the potential role of insurance is to be recognised or broad popular demand for insurance created."

Almost all other studies have found that community-based insurance that covers the costs of hospitalisation increases hospital utilisation (see Chapter 3, Table 3.1). This may reflect a publication bias, wherein the most successful schemes are the most likely to have been studied and reported on. Under-utilisation appears not to have been an issue for other CBHI schemes, in fact Bennett, et al. (1998, p. 45) states,

"problems with over-utilisation of services and cost escalation appear to have been a problem in Type I (covering high-cost, low-frequency events) schemes especially." Both TF and SEWA fall into this category of "Type I" schemes.

Given that user-fees in this setting were widespread and high, why did members of these schemes fail to use them? Low rates of utilisation may have been due to several factors, either alone or in combination. The factors most likely responsible for low rates of utilisation were similar for the two schemes: lack of awareness of the scheme and its benefits among members; perceived problems with the process of making a claim, or the amount reimbursed/discounted under the scheme; and perceived problems with access to and/or quality of health care under the scheme (unique to TF). Under the TF scheme, any or all of the above factors may have been exacerbated by the fact that the schemes finances were collapsing, resulting in the discontinuation of the scheme late in 1999, and that improved access to hospitalisation was not a central objective of the scheme.

Members of both of the schemes lacked knowledge about their respective scheme, its benefits, and/or their membership in it. This appeared to be the most important reason for low levels of utilisation of both schemes. In the case of TF it was clear that this occurred in some cases because the secretary at the local dairy co-operative had automatically – with varying degrees of discussion or notification – deducted the Rs. 10 membership fee from the annual bonus before passing the balance on to recipients. Lack of awareness among females resulted in some cases from men purchasing the membership without informing female household members. Perhaps more surprising, given that individuals rather that households were covered, was that members of the IIS were also lacking information. In some cases, this was because other members of the household had purchased the insurance – sometimes another female resident of the household, perhaps an IIS member herself, but sometimes a male member of the household. Bennett, et al. (1998, p. 26) concluded that "examination of the histories of long-standing schemes shows that maintaining a given level of coverage (and presumably also utilisation) requires... a sustained

information and sales policy."

Lack of information among members might arise in a variety of ways. Firstly, it may be that the CBHI scheme fails to provide members with clear information and education at the time of enrolment (or it is shared with one household member, who fails to pass it on). Alternatively, this information may be imparted to members, but they fail to understand it. Thirdly, it is possible that the information is shared, and understood, but it is forgotten with time. This is especially likely to be true if members are not periodically reminded and re-educated about the scheme. For TF and SEWA, it is likely that all three factors came into play. There seemed to be an emphasis within both schemes on increasing overall membership, with less thought/concern to more "distal" outcomes, such as increased hospital utilisation, and improved health status (although this study does not provide evidence to substantiate this claim). This is perhaps because coverage was a traditional indicator of the schemes' success, and more specifically had been used as a measure of the success of village-level representatives. Thus, it may be that there was little or no incentive for the scheme representatives who were actually selling the membership/policy to spend time explaining the procedures and benefits.

Members may fail to use the schemes if they anticipate that the value of reimbursement/discount will be low, or that the process of seeking reimbursement will be difficult, time-consuming or costly. Members of TF's referral scheme complained neither about the process of seeking discount, nor about the amount they expected to be reimbursed or (among those who had used the scheme) had been reimbursed. Administrators explained that the process of seeking a discount grew more difficult for members in 1999 as they were subjected to a needs assessment, but such difficulties were not reflected in beneficiary interviews. Among SEWA's beneficiaries, the situation was quite different. Those who were familiar with the Fund, including those who actually used it, had few complaints about the levels of reimbursement. They were aware, however, that direct and indirect costs of a hospitalisation could easily exceed Rs. 1,200. Furthermore, many who submitted

claims to the IIS faced unforeseen problems and costs in doing so. Compiling doctors' certificates and receipts was the most difficult part of the claims process – on average, it took women 55 days (from hospital discharge) to submit their claims to SEWA. In interviews, claimants reported attempts by doctors to make the process difficult and/or to extract money. It may also be that claimants encountered difficulties in presenting the claim to the closest SEWA office (e.g. lack of time or money for transportation, restrictions on where the claimant could travel independently, poor health). Thus, it is possible that members of the IIS who were eligible for reimbursement may have failed to submit a claim as they anticipated the level of reimbursement would be low or the process of reimbursement would excessively consume their time, energy and resources.

One of the key reasons that the schemes did not impact on hospital utilisation may be that outpatient and primary health care – the funding and promotion of which are often a major catalyst to change – were not adequately covered under the schemes. It should be recalled (from Chapter 4) that some primary care is provided by the parent organisations of both schemes; however, in both cases this primary care is limited in scope (accessibility and variety of services provided). It is generally held that a rational referral network (at least in non-emergency cases) involves a patient presenting first to an outpatient provider, with only more serious cases referred on to inpatient providers or specialists. Perhaps removing the financial barriers to inpatient care has little impact when no protection is provided against the costs of the gate-keeper, although this seems implausible. Rather, it may be that lack of knowledge and awareness around health-related issues (and the benefits of hospitalisation) pose a greater (or as great a) barrier to hospital utilisation than do costs of care. Education and communication generated through increased access to preventive and primary care may be a necessary precursor to increased hospital utilisation. Finally, it may be that an insurance scheme that also covers outpatient care would have greater impact on hospital utilisation because members would – as a result of the high frequency of events requiring outpatient care – be more familiar with, and more likely to remember, the benefits covered under the scheme.

It may also have been the case that members of SEWA's IIS did not submit claims as they were hospitalised due to one of the conditions excluded from benefit (e.g. chronic tuberculosis, certain cancers, diabetes. hypertension). However, given the low levels of awareness among members, most would be unaware that there were excluded conditions, far less what these conditions were. Consistent with this, few interview respondents complained (or seemed to know) about excluded conditions. Furthermore, the doctor who reviewed claims for the scheme reported bending the rules to provide reimbursement despite an excluded condition being the cause of hospitalisation (particularly with longer-term members) as the scheme was a "social service". Women who did not submit a claim because they had been hospitalised for an excluded condition probably accounted for a small fraction of those who failed to submit a claim.

Members of TF may not have used Shri Krishna Hospital because of concerns about distance, indirect costs (including the cost of transportation), and/or quality of care. Indeed, all of these were cited by members as reasons for not using the facility. Consistent with the hypothesis that distance acts as a barrier to utilisation, this study found that rates of utilisation of Shri Krishna Hospital (among TF members) correlated inversely with distance between their taluka (sub-district) of residence and the hospital. There was ample evidence from the qualitative interviews that lack of trust (versus perceptions of poor quality) was also an issue. Those who viewed Shri Krishna Hospital as a place where people go to die, or to be practised on by student doctors, may have been less likely to make use of the facility. The TF hospital referral scheme had much in common with "hospital-owned" schemes in that all inpatient care was provided at a single facility. Bennett, et al. (1998, p. 58) found some hospital-owned schemes to be unresponsive to consumers:

> *However, several of the health insurance schemes reviewed, particularly facility-based schemes, effectively ignored the demand issue (i.e. whether demand exists among non-formal sector workers and rural populations) during the design period, simply assuming that the product would be bought once available.*

Perhaps this lack of responsiveness stems from the very limited supply of health

insurance schemes in most developing countries (i.e. lack of competition).

There is evidence, then, for a variety of factors that may have limited utilisation of TF's hospital referral scheme: lack of knowledge about the services and perceived problems with distance, indirect costs, and/or quality of health care. But why were the low rates of scheme utilisation tolerated by TF administrators? In large part, this was probably due to problems of financial viability. To increase utilisation would almost certainly have meant pushing the scheme (or rather Shri Krishna Hospital) further into indebtedness. As is discussed below, failure of scheme administrators to make significant changes to the scheme so as to increase rates of utilisation also calls into question whether, and to what extent, increasing access to hospitalisation was actually one of their objectives. According to TF's first managing director, the scheme arose to provide inpatient care for the very poorest of TF's beneficiaries (i.e. those who could not afford hospitalisation elsewhere) and to increase Shri Krishna Hospital's patient-load so as to facilitate its accreditation. Beyond that, administrators of the scheme did not aspire to increase access to, or relieve the financial burden of hospitalisation. This appears to have occurred with other hospital-owned schemes (Bennett, et al. 1998, p. 13):

> *Some facility-based schemes were primarily driven by the need to raise revenue, for example. Others sought to combine revenue-raising with improved utilisation of services. Thus hospital-based schemes may have paid little attention to meeting a population's need for services at different levels...*

Protection from the costs of hospital care

Among those who actually used the two schemes, the mean amounts reimbursed/discounted were large relative to direct costs of hospitalisation. Both schemes were likely to have reduced indebtedness and impoverishment among those who used the schemes. Some, however, still went into debt despite receiving reimbursement/discount. Compared to SEWA, TF conferred greater financial protection on those who experienced the most expensive hospitalisations.

As aforementioned, these findings must be interpreted somewhat cautiously. For

example, while median levels of reimbursement under the SEWA scheme appear higher (93% for SEWA versus 48% for TF), the estimate for SEWA may be erroneously high as claimants may not have been motivated to submit receipts in excess of Rs. 1,200. Both for TF and for SEWA, the denominator (total direct hospital costs before reimbursement/discount) is exclusive of indirect costs of hospitalisation. The indirect costs, particularly those for transportation and medicines (purchased outside the hospital) may have been high, and alone may have been burdensome to some individuals.

The discount provided by TF has three apparent advantages over reimbursement under SEWA's IIS. Firstly, the discount provided by TF was generally indexed to the direct costs of the hospitalisation. For most of the scheme's history it was approximately 50% of direct costs, but varied according to income in the final year of the scheme. Secondly, the TF discount was taken off the hospital bill before the patient paid anything out-of-pocket. Thirdly, members of the TF scheme were excluded from benefits based on wealth, as opposed to nature of illness. As discussed in the following three paragraphs, the fact that under SEWA's IIS there was a cap on reimbursement, reimbursement was provided only after the member had paid for hospitalisation, and certain conditions were excluded from coverage, limited the financial protection conferred by the scheme.

The cap on reimbursements by SEWA's IIS (currently Rs. 1,200) may seem to be "against the principles of socially oriented insurance"[1] insofar as it limits the degree of financial protection available to members (minimising the impact on the financial burden of those who experience the most expensive hospitalisations) and the degree of redistribution of resources that occurs under the scheme. However, given that the total premiums collected under the Fund remain relatively small (relative to the cost of long, expensive hospital stays), and that the Fund is not reinsured by any higher-level insurer, the cap has been maintained in order to protect the Fund's financial

---

[1] Comment made by an anonymous reviewer from the *Bulletin of the World Health Organization* in written communication of 8.12/01.

viability. Given that cost-recovery by the Fund has consistently been higher than 100% (see Chapter 4), administrators could consider increasing the cap on reimbursement, or increasing the amount provided for hospitalisations that are particularly expensive.

The lag time between discharge from hospital and reimbursement by SEWA's IIS (on average, just over three months) means that members are required to pay the total costs of hospitalisation out-of-pocket at the time of discharge. This was much higher than SEWA's stated goal of 30 days. Despite the hope of future reimbursement, many of these women undoubtedly had to borrow, sell capital, work more or forego spending in order to pay for hospitalisation. Bennett, et al. (1998, p. 35) reported that "evidence from elsewhere in India suggests that in such circumstances (i.e. when the patient must first pay out-of-pocket), demand may be considerably reduced because of the necessity of finding cash to make the initial payments." In recent years, more than half of the lag time (55 to 98 days) before reimbursement by the IIS occurred between discharge from hospital and submission of the claim. This may be due to problems encountered in collecting receipts and certificates, or difficulties in presenting the claim to the nearest IIS claims office.

The study provided no evidence that the exclusion of certain medical conditions (e.g. chronic tuberculosis, certain cancers, diabetes, hypertension) had a significant impact on financial protection (or utilisation, or equity of access). Only 11% of claims submitted to SEWA were rejected for any reason (and only half of these because of "chronic or pre-existing disease"). And, as already discussed, it is unlikely that women failed to submit a claim because they had been hospitalised for an "excluded condition" and so anticipated that they would not be reimbursed. In schemes where exclusions are more strictly adhered to, they may impact adversely on outcomes such as financial protection, utilisation and equity:

> *Admittedly, setting certain exclusions (or caps) may be essential for schemes that cover the catastrophic costs of care, in order to prevent adverse selection. However, these exclusions are likely to affect more vulnerable groups, such as the elderly and people with AIDS.*

Bennett, et al. (1998, p. 47)

Coverage and targeting of the poor

Both TF and SEWA included among their objectives the targeting of their services to the poor. There was a trend towards higher levels of wealth among TF's members, relative to the general population. Members of SEWA's Fund appeared not to differ from the general population in terms of wealth.

In comparison to other CBHI schemes in India and elsewhere, TF and SEWA managed to enrol an impressive number of people in their "insurance" schemes. At last count, TF had 166,650 member households (assuming 5.3 persons per household, this is almost 900,000 members; it is not clear what percentage of the population in TF's 644 villages this represents). Membership in SEWA's Fund was 23,214 women (1999/2000) while total SEWA membership was approximately 147,618. Thus, some 16% of SEWA members are currently enrolled in the Fund.

CBHI schemes in other settings have largely failed to include the poor. According to the published literature, this failure can usually be attributed either to a failure to "target" the poor (i.e. as one of the objectives of the scheme) and/or an unaffordable premium. Of the 82 CBHI schemes reviewed by Bennett, et al. (1998, p. vii), "very few reached the poorest households." In fact, many of the schemes were targeted at the "rural middle class"; SEWA was listed as one of only four that actually targeted "the poor" (p. 23). An unaffordable premium appears to have been particularly problematic in other settings. Bennett, et al. (1998) found that most schemes relied on flat-rate premiums, and that for several schemes unaffordable premiums were a major deterrent to participation. Dave (1993, p. 314-5) cited a number of mechanisms that have enabled poorer individuals and households to participate in "prepayment/insurance" schemes in India (although she provided no evidence of their effectiveness):

Sewagram and the SSSS have membership fees related to ability to pay... Membership contributions are graded according to these categories... At Sewagram, contributions may be made in sorghum, at RAHA in rice, and at

> *Goalpara either in rice or through community Labor... Schemes that request members to pay a co-payment, mostly towards drugs, all waive fees either totally or partially for those members judged unable to pay.*

In the case of TF, it is highly unlikely that the membership fee, only Rs. 10 per household per annum, deterred anyone from joining the scheme. Women reported that the premium for SEWA's IIS (Rs. 72.5 per individual per year) could pose an obstacle to joining the scheme, and yet SEWA was more successful at including the poor. For these two schemes, there appear to be a variety of other factors (which differ by socio-economic group and) which determined whether or not people joined the schemes.

Membership in TF's hospital referral scheme was largely driven by a household's participation in the local dairy co-operatives. Households seemed to join TF either because: they had been told about the scheme, and membership was so inexpensive that they found it difficult to say no; or membership was made mandatory by their local dairy society. This explains both TF's ability to attract such a large membership, and the fact that the poor were excluded to some degree. Membership in SEWA's IIS, and its inclusion of the poor, is somewhat harder to explain. In part, membership was driven by participation in the larger SEWA organisation, and its many development-oriented activities. But the fact that members of the IIS were older and sicker than the general population (and *probably* the larger population of SEWA Union members) suggests that there might have been more to SEWA membership than just "jumping on the bandwagon" (as was expressed by one of the interview respondents, DONOR 1).

TF's strong ties to the local dairy co-operatives (including overlap in their management and administration) undoubtedly deterred some poor households from joining. In order to belong to the dairy co-operative, a household had to be sufficiently wealthy to purchase and keep a milch animal (a buffalo or cow), the costs of which would have been prohibitive to the poorest in a village. While those who did not belong to the local dairy co-operative were welcome to join TF, they

may never have come to know about the scheme, or they may have faced other barriers to joining. Consistent with this theory, this research found that people (members and non-members alike) closely associated the TF scheme with the local dairy co-operatives, often believing that membership in TF was restricted to those who deposited milk at the dairy. In the household survey it was found that farmers (including dairy farmers) were significantly more likely to have joined TF than were non-farmers.

There was some evidence from the qualitative interviews that membership in TF was determined by state of health, i.e. that households joined TF after someone had fallen seriously ill and it was clear that they were going to require inpatient care. Given the very low rate at which TF members were hospitalised at Shri Krishna Hospital, it is not surprising that this adverse selection did not impact on the socio-demographic profile of TF's membership.

The various services offered by the CBHI scheme – or its "parent" or "sister" organisation – may facilitate participation among the poor. The many development-oriented services offered by SEWA likely facilitated inclusion of the poor in the IIS. For example, (although no evidence is available from this study) members of the SEWA trade union may have had better access to credit and savings accounts, and as such they may have had greater demand for insurance; perhaps both increased need because they were sufficiently secure to make plans for the future, and increased ability to pay because they had more disposable income credit. CBHI schemes elsewhere have also benefited from ownership by an NGO involved in broad community development activities. Bennett, et al. (1998, p. 20-1) hypothesised that:

> *...communities may be more willing to participate actively in health insurance schemes (created by NGOs involved in development activities) since they consider that their priority needs – for a stable income, for instance – are also being addressed... If a health insurance scheme is linked to the community development project with which they are already involved, many households may feel they should support the scheme's membership drive.*

Thus, broader development activities may change the "context" in many ways that

facilitate participation, particularly by the poor, including: empowering the disenfranchised to take decisions around membership and health care utilisation; increasing the perceived need for health care; creating a sense of dedication to the insurance provider; and improving the economic conditions such that the premium is affordable.

Social capital may have been a determinant of membership in SEWA's IIS, but it was unlikely to have determined membership in TF. As already mentioned, households joined TF either because they were automatically (mandatorily) enrolled or because membership was very inexpensive (and they saw it as "charity" or "social service"). There seemed to be little sense of solidarity, or of working together towards some common good, among TF members. At SEWA, on the other hand, a sense of "affiliation" and "community", perhaps borne out of previous experience with collective action, was cited as a determinant of membership in the IIS. Respondents did not report any sense of solidarity (i.e. a willingness and acceptance that there would be transfers from the wealthier to the poorer, and from the healthier to the sicker, under the scheme). Interestingly, Bennett, et al. (1998, p. 11) found that the demand for insurance covering hospitalisation was driven more by "personal risk aversion" than "cohesive community":

> *Personal risk aversion was more likely to form the basis of demand for membership of Type I (covering high-cost, low-frequency events, namely hospitalisation) schemes than for membership of Type II schemes (covering low-cost, high-frequency events, typically outpatient services or medicines)... Lack of a cohesive community was thus much less of an issue for Type I schemes than for Type II schemes. Moreover, beneficiaries of Type I schemes tended to be distributed over a wide area, relatively heterogeneous and therefore less likely to experience strong feelings of solidarity.*

Aside from the enabling environment provided by SEWA Union, a sense of affiliation, and the affordability of the premium, there is evidence to suggest that perceived risk of illness (or death) also contributed to the decision whether or not to join the IIS. Compared to the general population, IIS members were significantly older and more likely to have reported illness "in the last 30 days". (It may be that

members of the SEWA Union were also older and sicker than the general population, but this seems highly unlikely.) "Adverse selection" has occurred with other CBHI schemes. Bennett, et al. (1998) found that adverse selection affected schemes that cover hospital inpatient care, in particular. In fact, the problem of adverse selection appeared to be particularly problematic for schemes covering inpatient care that allowed individual (as opposed to household) membership (Bennett, et al. 1998, p. 23):

> *Schemes that had initially allowed individuals to enrol often rapidly faced problems of adverse selection and had to be switched to enrolment by household.*

However, it may be that this "adverse selection" under SEWA's IIS should instead be viewed as effective targeting. For example, it is likely that adverse selection was to some extent encouraged by scheme functionaries, insofar as poor households with limited expendable income may have been encouraged to insure the household member who was most likely to fall ill. Furthermore, the scheme did fall somewhere on the spectrum between health-insurer (strictly-defined) and "social service" in that the scheme aimed to improve access to hospital care among the poor, and to protect the poor from the costs of hospitalisation. As such, adverse selection may be viewed in a positive light. Given that the poor are, *ceteris paribus*, more likely than the wealthy to fall ill, inclusion of the older and sicker individuals in the IIS may also be an indication that the poor were being included (or at least were not being excluded).

The extent to which the poor are included in a scheme in turn has an influence on the overall equity impact (not directly assessed in this study) and also on a scheme's financial viability. By targeting the poor – and consequently, to some extent, excluding the wealthy – a CBHI scheme may limit the extent to which redistribution occurs, both from high to low-income (cross-subsidisation) and from the healthy to the ill (risk-pooling). A scheme that focuses narrowly on the poor is likely to have to charge low premiums, yet in the target population the frequency of illness, and thus hospitalisation, may be relatively high. For the TF scheme, there was no pooling of resources; thus concern around including the poor was not borne out of a

desire to maximise risk-sharing and cross-subsidisation, but perhaps a desire to see that external donations were distributed "equitably" among the target population. Under SEWA's IIS, despite the diversity of wealth among its membership, the amount of redistribution was limited because of the relatively low cap on benefits (that does not vary with income). This also greatly limited the risk of financial loss by the SEWA's Medical Insurance Fund. One might argue that SEWA could "afford" to target the poor, or even focus on them exclusively, because of the cap on benefits. But it must be remembered that while allowing increased coverage of the poor (without great risk of financial loss) the cap hindered the overall equity impact of the scheme.

Equity of access to scheme benefits

Weak evidence from the review of SEWA claims suggested that claimants were as poor or poorer than the general population (and thus IIS members overall) but comparable data were not available for TF. There was stronger evidence for both schemes that distance (or geography) was a barrier to scheme utilisation.

It is likely that those living in more rural or isolated areas are poorer. Thus, the finding that distance was a barrier to utilisation of (or reimbursement under) the schemes suggests that access to benefits under the schemes may have been inequitable. For SEWA's IIS, rates of utilisation by district were not available. But the longer delays between discharge and reimbursement among residents of Kheda (a predominantly rural district) relative to Ahmedabad (urban) suggest that distance to the nearest claims office may have hindered claims submission or provision of payment. This hypothesis is strengthened by the fact that the differential between rural and urban delays disappeared with "decentralisation" – the creation of an IIS claims office in Anand town in July, 1998. It seems likely that within districts, delays remained longer for those who lived further from a claims office. Low rates of utilisation among TF members who lived in talukas far from Shri Krishna Hospital may reflect lower levels of awareness among those living at a distance, or it may be that the cost and inconvenience of travelling to Shri Krishna Hospital acted

as a deterrent. In interviews, beneficiaries remarked that in cases of emergency it took too long to travel to this facility, and that the cost of transporting the patient, their family and friends to and from the hospital, could be significant.

The finding that distance was a barrier to scheme utilisation is entirely consistent with the experience in other settings:

> *Fairly substantial evidence suggests that utilisation increases far more among insured households located close to a health care facility and that these households are also more likely to join such a scheme. Since under most schemes, people pay the same premium wherever they live, those distant from the facility (who might in any case belong to poorer, more remote, rural communities) in effect cross-subsidise those who live close to the health facility.*
> *(Bennett, et al. 1998, p. 47)*

Rarely have other authors suggested that equity to access could be improved by establishing facilities (either the health care services or facilities for reimbursement) in rural or remote areas – perhaps reflecting the fact this could be labor- and resource-intensive, and might take years to implement. Many, however, have suggested that the overall equity impact of schemes could be improved by making financial contributions more equitable, i.e. by changing the premiums paid to reflect rates of utilisation. Dave (1993) cites the example of the RAHA scheme in India:

> *Members who are referred to any one of the three hospitals affiliated to RAHA pay an entrance fee related to the distance travelled. The charges are Rs. 200 if the distance travelled is less than 25 kilometres, Rs. 150 if it is over Rs. 25 kilometres but less than 100 kilometres, and Rs. 100 if it is over 100 kilometres.*

Social consequences

Data from this study provide no evidence for the many potential social consequences that were described in the literature review. As previously discussed, the qualitative methods used may not have been adequately sensitive to the social consequences of CBHI. Alternatively, social consequences may not have been observed due to the nature of the schemes investigated or characteristics of the setting.

The social consequences described in the literature review (Chapter 3) were for the

most part observed in developed countries, and in relation either to mandatory, social insurance schemes or private-for-profit schemes. In developed countries, health insurance is generally widely available (or mandatory), essential insofar as inpatient services would be unaffordable without it, and insurance schemes are by no means a new phenomenon. It is not hard to imagine that health insurance could impact on the status of allopathic physicians (de Swaan 1988) or impact on the nature of the interaction between doctor and patient, for example, in settings where the bulk of health system resources flow through insurance schemes. On the one hand, it may be that TF's hospital referral scheme and SEWA's IIS were too small (in terms of coverage and resource mobilisation), too new or too infrequently used to bring about social consequences. For example, such schemes may bring about changes in medical decision-making (for example, empowering insured women to make their own decisions) only after members become familiar with insurance through long-standing and repeated use. Alternatively, it may be that some aspect of the broader context (something about Gujarat, India, or developing countries, for example) prevented the schemes from having social consequences. For example, the fact that hospitals in India are largely unmonitored and unregulated means that it is extremely difficult for a scheme dealing with multiple providers (like SEWA's IIS) to evaluate the services at facilities, and direct members to one group of providers versus another. Thus, the health system context in India may prevent health insurance schemes from improving the status of allopathic physicians versus unqualified or traditional doctors.

This study does highlight one potential social consequence (not covered in the literature review) that should be further investigated in this setting. The qualitative sub-study revealed that informal credit (borrowed from friends, family, employers or money-lenders) was a common means of acquiring money to pay for hospitalisation. Even those who received benefits under the two schemes reported using credit, either to pay the hospital bill while waiting for reimbursement (under SEWA's IIS), or to pay the un-covered portion of the bill or the indirect costs incurred. If CBHI becomes more prevalent, it seems likely that it will have some impact on these

informal networks of financial protection, either by decreasing the frequency with which they are used, or changing the nature or duration of borrowing.

Sustainability, financial and managerial

During the course of this study, it became increasingly clear that sources of funding, and levels of cost-recovery, were important determinants of the long-term viability of the schemes. Early on during the study, it was revealed by scheme administrators that the costs of caring for TF members at Shri Krishna Hospital were offset, *not* by membership fees paid by TF members, but by a fixed donation made annually by an external donor, Kaira Can. In recent years, the discounts provided to TF members had far exceeded the donation by Kaira Can, so that Shri Krishna Hospital was going into considerable debt providing subsidised care to TF members. As this study was going on, scheme (and hospital) administrators had responded to these financial imbalances first by reducing benefits under the hospital referral scheme, attempting to provide discounts in inverse proportion to a member's wealth. Late in 1999, discounts at Shri Krishna Hospital for TF members were completely discontinued. (Note that these changes were not captured in the household survey or the scheme utilisation data, as these data largely pre-dated the changes.)

At SEWA, on the other hand, resources for the Medical Insurance Fund came from two main sources. The premiums paid by members accounted for the largest portion. Since the Fund's inception, the premiums have consistently exceeded the total amount reimbursed, at a ratio varying from 119 to 309 percent (ILO 2001, p. 77). Administrative costs of the scheme are considered separately here, as it has not been possible to estimate the percentage of administrative time spent on the Medical Insurance Fund versus the life and asset insurance components. All administrative costs have been paid for out of interest on a grant from German Technical Cooperation (GTZ). These costs accounted for 10.2 to 22.9% of total IIS costs annually (ILO 2001).

The heavy reliance on external funds by TF's hospital referral scheme, compared to

the use of mixed sources at SEWA, may have been problematic for two reasons. Funding received from Kaira Can was problematic not because it was unreliable (an amount of Rs. 500,000 per annum was consistently paid) but because it was fixed, whereas TF's membership was rapidly growing as were the costs per person hospitalised. The external funding under SEWA's IIS was also relatively fixed (depending on the rate of interest), but because it comprised a small percentage of total revenues, this did not seem pose a problem even as membership in the IIS grew over time. Through its close association with SEWA Union (and SEWA Bank), the IIS may have been able to draw on accounting and administrative systems that were already in place. The reliance on external funds probably impacted on other aspects of the scheme's design and management. For example, if TF members had been required to cover a greater portion (or all) of the costs of the scheme, they might have taken a greater interest in the scheme, and demanded more (information, education, services) in return for their contribution. Similarly, if administrators of the hospital referral scheme had been managing money perceived to belong to beneficiaries, they might have been more careful to ensure that it was spent effectively.

While over-reliance on donor funds poses some risks, CBHI scheme always require some external financial support. Bennett, et al. (1998, p. vii) found that "all of the (82) schemes depended on continuing access to some form of external subsidy. Of the six Indian "prepayment/insurance" reviewed by Dave (1993) all relied on at least one source of funding other than the premium/membership fee. These sources included user-fees, domestic or international donors, government grants and fund-raising activities.

To attribute all of a scheme's financial difficulties to too heavy a reliance on a single source (in this case external) of funds seems too simplistic. For many years, administrators of TF were aware that the hospital referral scheme was financially unsustainable, and yet it was not until its demise was imminent that any major changes were made. Doubtless, this reflects other aspects of context and the

scheme's design and management. Was this lack of change due to the fact that the hospital referral scheme (or relief of medical indebtedness, or removal of financial barriers to health care seeking, etc.) was not a major concern objective of scheme administrators or beneficiaries? Was it because TF assumed that one of its "sister organisations" involved in the scheme (including Kaira Can, Shri Krishna Hospital, and the Kaira District Cooperative Milk Producers' Union Limited, parent organisation to the local dairy co-operatives) would eventually save it from financial ruin? Was it because scheme managers were insufficiently equipped (e.g. technically, with information, with political clout) to bring about the necessary changes? Data from this study do not provide the answer. The fact that the old scheme has now been discarded and replaced suggests that participants did not see the old scheme as worth saving, and wished to start with a clean slate. The lack of change to TF's hospital referral scheme over its 19-year lifespan suggests that management was doing little to optimise its impact. In contrast, in the almost ten years since it was started, the SEWA's IIS has constantly evolved. This has been cited as one of its strengths:

> *Some of the more successful schemes progressively adopted a more active purchasing role and regularly sought feedback on their performance. The SEWA scheme, in particular, made considerable efforts to adapt in order to meet members' needs.*
> *(Bennett, et al. 1998, p. 41):*
>
> *SEWA's efforts to streamline procedures in order to meet clients' needs are an excellent example of such responsiveness.*
> *(Bennett, et al. 1998, p. 58-9)*

Finally, one aspect of the design and management of both schemes that may have had a negative impact on all indicators of impact was the failure to collect and or make use of data. Fine-tuning the design of a scheme requires information on who is enrolled and excluded, rates and causes of hospitalisation, expenditures on hospitalisation, and barriers that prevent enrolment in the scheme and utilisation of the scheme by those who are insured. In fact, at the commencement of this study, both TF and SEWA already had much data available to them. For example, TF kept annually updated records of its members and received utilisation data from Shri

Krishna Hospital monthly in the form of bills. Similarly, the IIS recorded a small amount of information on all enrolled members, and recorded relatively detailed information on all those who submitted claims. In neither case, though, had data been entered into a computer and monitored over time for indicators such as rate of scheme utilisation or proportion of expenditures reimbursed. In fact, this study marked the first time that claims data for the SEWA scheme (previously kept as cover-sheet, receipts and certificate in binders) had been entered into a computer and analysed. Bennett, et al. (1998, p. 32) expressed the importance of data on utilisation to financial sustainability:

> *So for Type I schemes, utilisation review, including regular review of medical records to identify excess provision or unusual medical practices, may be necessary to ensure the scheme's continued financial viability.*

SUMMARY

This section has described and discussed the impact of TF's hospital referral scheme and SEWA's Fund in terms of: (1) scheme utilisation and access to hospitalisation; (2) protection from the costs of hospital care; (3) inclusion of the poor and equity of access to scheme benefits; (4) social consequences; and (5) sustainability, financial and managerial. Links were described between scheme impact and underlying aspects of context and scheme design and management.

Both schemes have had some minor successes. SEWA was successful at including the poor under the Fund. Both TF and SEWA reduced hospital expenditures, and relieved indebtedness, among those who actually used the schemes. These successes, however, were overwhelmed by the very low rates of utilisation of the two schemes. The factors most likely responsible for low rates of utilisation were similar for the two schemes, and included: lack of awareness of the scheme and its benefits among members; perceived problems with the process of making a claim, or the amount reimbursed/discounted under the scheme; and perceived problems with access to and/or quality of health care under the scheme (this last point is unique to TF). Under the TF scheme, any or all of the above factors may have been exacerbated by the fact that the scheme's finances were collapsing, resulting in the

discontinuation of the scheme late in 1999.

The study found that the schemes had not had important social consequences, and that participants expressed their goals for, and perceived the impact of, the schemes in terms of economic benefits. Social capital appeared to be an important determinant of membership in the SEWA scheme, but otherwise appeared to have minimal influence on the functioning of the two schemes.

CHAPTER 12: CONCLUSIONS AND POLICY IMPLICATIONS

This chapter will demonstrate the extent to which this study's objectives have been met. The conclusions are presented in two parts. The first section presents substantive conclusions that can be made about the two schemes studied. For each scheme, the nature of the impact and the factors that underlie this impact are presented. The second section presents theoretical conclusions based on what the two case studies reveal about CBHI schemes more generally. These conclusions are of greater interest to a wider audience of policy-makers, but their nature is more tentative. The third section describes what the study's conclusions contribute to theory, and the extent to which the objectives of the thesis have been met. The fourth section highlights the implications of the study for policy-makers in India and elsewhere (addressing the thesis' final objective), and the final section suggests areas for future research.

SUBSTANTIVE CONCLUSIONS ON THE TWO CASE-STUDY CBHI SCHEMES

Tables 12.1 and *12.2* use the categories set out in *Table 3.4* to summarise the overall impact of TF's hospital referral scheme and SEWA Medical Insurance Fund, and the factors found in this study to underlie impact.

Table 12.1: The impact of TF's hospital referral scheme, and factors that have influenced impact

Context

Social context:

- Social capital only important insofar as people saw TF as an extension of local dairy co-operatives, membership in which may have been associated with social capital

Scheme Design & Management

Enrolment process & premium:

- Mandatory membership in some villages (thus wealthier membership, low awareness, low scheme utilization)
- Membership usually sold to males (thus lower rates of awareness among women, low utilisation)

Benefits package:

- Many village-level services (incl. preventive and primary health care) provided by the TF scheme (thus drawing people into TF)
- Problems with distance to, cost and quality of, care at Shri Krishna (thus low utilization, inequity of access)
- Scheme benefits indexed to total cost of hospitalization, discounted directly from bill, and no illness exclusions (thus enhanced protection among those who used the scheme)

Funding:

- Reliance on single source of funding, external donor (thus unsustainable financing, possibly low levels of awareness)

Other design:

- Links with local dairy co-operatives (thus wealthier membership)
- No mechanisms to protect against adverse selection (little impact)
- No pooling of risks/resources under the scheme; members do not "see" link between premium and benefits

Scheme management:

- Primary objectives of scheme administrators were to provide primary/preventive care to women and children, to improve access to hospitalization among the very poor/sick, and to help increase utilization of Shri Krishna Hospital (thus low overall rates of utilization and financial protection)
- Failure to make changes to scheme (thus influencing all measures of impact)
- Failure to collect and/or make use of data (thus influencing all measures of impact)
- Failure to educate and communicate (thus low rates of utilization)

Impact

Economic (traditional) areas of impact:

Access to hospitalization and scheme utilization: low levels of scheme utilization, with no impact on overall rates of hospital utilization

Protection from the costs of hospital care: relatively effective among those who actually used the scheme, especially so among those who experienced the most expensive hospitalizations; overall, membership was not associated with decreased annual hospital expenditures (net of discount) per person hospitalized

Coverage and targeting of the poor: trend towards higher levels of wealth among members (vs. general population)

Equity of access: distance a barrier to utilization of Shri Krishna Hospital

Scheme financially unsustainable, now defunct (may have contributed, indirectly, to low rates of scheme utilization)

Social areas of impact:

None identified

Table 12.2: The impact of SEWA's Medical Insurance Fund, and factors that have influenced impact

Context	Scheme Design & Management	Impact
Social context: • Sense of affiliation or community among SEWA members (thus more likely to join IIS) **Economic context:** • Alternatively, access to savings and credit increases money available to pay for IIS premium	**Enrolment process & premium:** • Individual membership may facilitate adverse selection (may help in terms of targeting the neediest/poorest) • Premium high for some (may limit more poor from joining) **Benefits package:** • Cap on benefits; benefits too low relative to total direct costs (thus limited financial protection of HHs; helps scheme financial viability) • Reimbursement process too slow, time- and resource-consuming (thus low levels of utilization, limited financial protection) **Funding:** • Mixed sources of funding (premiums and external donor (thus increased sustainability) **Other design:** • Many links with SEWA Union, and its development-oriented activities (establishes perceived need for, and ability to afford insurance, thus increased membership) **Scheme management:** • Primary objective of administrators was "social security", protection of livelihood. However, goal in practice may be maximizing the number of insured, rather than ensuring effective utilization (thus, high membership, but low utilization) • Failure to educate and communicate (thus, low rates of utilization) • Decentralization of claims process (thus decreased lag time in rural areas) • Scheme constantly changing to meet members' needs (thus increased membership, financial protection & sustainability) • Failure to collect and/or make use of data (thus influencing all measures of impact)	**Economic (traditional) areas of impact:** Access to hospitalization and scheme utilization: low levels of scheme utilization, with no impact on overall rates of hospital utilization Protection from the costs of hospital care: relatively effective among those who actually used the scheme, less so among those who experienced expensive hospitalizations; there were insufficient data to draw conclusions on the association between membership and annual hospital expenditures (net of reimbursement) per person hospitalized Coverage and targeting of the poor: wealth of members not significantly different to that of general population Equity of access: claimants appeared to be as poor, or poorer than the general population; distance (from claims office) likely a barrier to utilization. Financially sustainable **Social areas of impact:** None identified

Rates of utilisation of both schemes were low, and neither had increased access to hospitalisation among members relative to controls (although this may reflect insufficient statistical power of the household survey). Several aspects of the TF hospital referral scheme's design and management may have contributed to low rates of utilisation. Members were often unaware of the benefits to which they were entitled, and in some cases were entirely unaware of TF and their membership in it. Those who were aware of the scheme may have perceived problems with the referral services, namely distance to, cost and perceived quality of, services at Shri Krishna Hospital. Similarly, low levels of awareness may have hindered utilisation of SEWA's Fund. Members of the IIS may have decided not to seek reimbursement under the Fund, anticipating that levels of reimbursement would be low or that there would be difficulties and delays in seeking and receiving reimbursement. It is unlikely the exclusion of certain chronic conditions from reimbursement by the Fund prevented members from submitting claims as most members were unaware of these disease illness exclusions.

Among TF members who used Shri Krishna Hospital, and SEWA-IIS members who submitted claims to the Fund, average rates of discount reimbursement (as a percentage of direct costs of hospitalisation) were high. TF's referral scheme, relative to SEWA's Fund, was especially effective in preventing indebtedness among those who experienced more expensive hospitalisations. Despite the financial benefits provided under the two schemes, there were some recipients who went into debt paying for hospitalisation. In the case of SEWA's Fund, some went into debt because of the delay between discharge and reimbursement, while others went into debt to cover the un-reimbursed hospital expenditures. The financial protection conferred by SEWA's Fund was hindered by the fixed cap on reimbursement (compared with discounts indexed to total direct costs of hospitalisation under the TF scheme) and delays between discharge from hospital and reimbursement (compared with the discount being subtracted directly from the hospital bill, prior to any out-of-pocket payment).

There was a trend towards higher levels of wealth among TF's members, relative to the general population, while members of SEWA's Fund did not differ from the general population in terms of wealth. Demand for membership in TF's hospital referral scheme was largely driven by participation in the local dairy co-operatives; membership in TF was either sold through the local dairy co-operatives (on a voluntary basis) or mandated by the co-operatives, so most members of TF were also members of the local dairy co-operatives. Members of the dairy co-operatives were likely to be wealthy in comparison to the general population as they had to be able to afford at least one milk-producing animal. Households may also have joined TF as they perceived the membership fee to cover the many other village-level services provided by TF – including some primary and preventive care services – or they believed it to be a contribution to "charity" or "social service". Demand for membership in SEWA's Fund was similarly related to the scheme's strong links with a parent organisation and services that were packaged together with the health insurance. The development-oriented services of SEWA Union may have created an enabling context for a successful insurance scheme (e.g. generating sense of affiliation between SEWA members, improving the economic condition such that the premium was affordable) and a sense of dedication to SEWA. Members also purchased membership in the Fund because this membership was packaged (under the umbrella of the IIS) with life insurance. While perceived risk of illness contributed to the decision whether or not to join both schemes, only SEWA Fund members were significantly older, and in poorer health, than non-members.

There was some evidence to suggest that access (specifically, geographic) to benefits was inequitable under both schemes. Utilisation rates were lower among TF member households in talukas farther from Shri Krishna Hospital, in more rural areas. The cost and inconvenience of travelling to Shri Krishna Hospital were reported as barriers to its use. Prior to decentralisation of claims processing, delays between discharge and reimbursement by SEWA's Fund were significantly longer in Kheda District (largely rural) than in Ahmedabad (urban). The cross-district data suggest that residents of rural areas faced delays in reimbursement due to longer

distances to the closest claims office.

The TF scheme was financially unsustainable, with Shri Krishna Hospital incurring debts as a result of the scheme for several years prior to the scheme's discontinuation late in 1999. Financing of the scheme was unsustainable both because funding from the external source was fixed (while the scheme's membership and cost per hospitalisation were increasing with time) and because the scheme did not draw on any alternative sources of funding. SEWA's Medical Insurance Fund appeared to be financially sustainable. It relied on external funding to cover administrative costs. Members' premiums, the other major source of funding, were consistently higher than benefits paid out by the scheme. This can be attributed to relatively low rates of scheme utilisation coupled with the fixed cap on benefits.

Several aspects of the TF hospital referral scheme's management impacted negatively across all measures of impact assessed in this study. First and foremost, it seems that the scheme was not intended by those who designed and implemented it to increase rates of utilisation, or to protect all member households from the catastrophic costs of inpatient care. Rather, it was intended to provide free/low-cost hospitalisation for the very poorest TF members (particularly women and children), and to increase bed occupancy rates at Shri Krishna Hospital. Thus, inconsistencies between the scheme's actual objectives and those outlined in *Table 3.4* may underlie the scheme's "failure" to impact on overall rates or costs of hospitalisation. Second, scheme administrators had at their disposal all of the utilisation data presented in this thesis (Chapter 6); however, this had not been analysed for utilisation rates, or differences in utilisation by age, gender or place of residence. Analysis of this data would have revealed, for example, that the hospital referral scheme had failed to target women and children (a stated goal of TF) and would have allowed for corrective mechanisms to be put in place. Third, as presented above, levels of awareness among members, particularly women, about the scheme and its benefits were low. This suggests that insufficient communication with, and education of,

household members was an issue. Finally, over its approximately nineteen years of functioning, virtually no changes were made to the design of the scheme until the final year. Over this time, the membership fee remained constant, there were no changes to the scheme's benefits (for example, they were only ever available at Shri Krishna Hospital) and there appeared to have been little change in how the discount was applied for, processed or awarded. This lack of change seems remarkable given the worsening state of the scheme's finances.

As was the case with TF, all activities of SEWA's Fund were hindered by the absence of a system for regularly analysing and reporting on data that were collected about the scheme. However, since its inception in 1992, small changes were constantly made to the scheme in response to its members' "needs". This helps to explain the scheme's large membership and impressive rates of cost-recovery, but is at odds with the low rates of utilisation.

THEORETICAL CONCLUSIONS

Factors which have emerged as important determinants of the impact of the two CBHI schemes studied are reviewed below, and some conclusions about their broader relevance to CBHI schemes in developing countries drawn. Caution was used in making generalisations regarding scheme context, given that only two schemes were observed, and many aspects of context were the same for the two. Furthermore, because TF's hospital referral scheme has many peculiar characteristics that make it unlike most other CBHI schemes, extra care was taken in making generalisations based on findings about this scheme alone.

The importance of context

Economic context was found to have influenced the impact of both schemes, while social context was of greater importance to SEWA's IIS. The ability to pay was cited by SEWA members and their husbands as one of the factors influencing their decision to join the IIS. This was not the case for TF, as the premium was considered by all to be very low. Social capital (expressed in terms of sense of

"affiliation" or "community) may have encouraged enrolment in SEWA's IIS while it appeared not to influence membership in the TF scheme. It did not appear to have influenced the other measures of impact examined in this study. Members of both schemes reported that the costs of seeking health care were high and that the cost of health care was an important determinant of whether, where and how much health care was sought. Neither of the case-study schemes had linkages, formal or otherwise, to government. As such, it is difficult to make any conclusions related to political context.

In terms of generalisable conclusions about context, the economic condition of the household is likely to influence demand for membership in a CBHI scheme, depending on the amount of the premium. A sense of affiliation or community among members of a target population may enhance enrolment in a CBHI scheme. The extent to which social capital underlies or influences a scheme's impact probably varies tremendously, depending on the nature of the benefits, the size of the enrolled population and share of the population enrolled, ownership of the scheme and other factors. It is thus difficult to make further generalisations around the importance of social capital. Where the costs of hospitalisation are high relative to income, they may act as an important determinant of the demand for inpatient care (i.e. whether, where, and how much care people choose to take).

The importance of scheme design and management

Premium

Membership fee for the TF scheme was viewed by administrators and beneficiaries alike as being very low, yet there was a trend towards higher wealth among members. The premium for SEWA's IIS was reported by some to be unaffordable. Nonetheless, the poor joined the scheme. *These findings highlight that a high premium can deter some from joining a CBHI scheme, but that a very low (affordable) premium alone does not ensure that the poor will join a scheme.*

Packaging health insurance with other services

Under both of the case study schemes, services other than "health insurance" were available. TF members perceived the greatest benefit of the scheme to be reduced-cost medicines available through local VHW's while SEWA IIS members generally thought that life insurance was the greatest benefit available under the IIS. This may explain in part how the schemes were able to attract large member-populations, while rates of utilisation of the health insurance component remained low. *These findings suggest that packaging of health insurance with other services (especially services perceived to be important by beneficiaries) may increase enrolment in a scheme. In a scheme where health insurance is packaged with other services, overall membership in the scheme does not serve as an indicator of demand for health insurance alone. When health insurance is packaged with other services, individuals may be less aware of the health insurance component, or consider it to be of lesser importance relative to the other services.*

Financial benefits: amount, ease of claiming, and timeliness

Financial protection provided under TF's hospital referral scheme was enhanced because the discount was indexed to total direct costs of hospitalisation and the discount was subtracted off of the bill before the TF member made any out-of-pocket payment. Reimbursement under SEWA's IIS was less effective due to the fixed cap on reimbursement and delays between the discharge from hospital and reimbursement. The process of compiling a claim was sometimes difficult and costly.

In terms of generalisable conclusions about scheme financial benefits, it seems that a fixed cap on the amount reimbursed (or discounted) may be less effective at protecting CBHI members from very expensive hospitalisations than reimbursement (or discount) that varies in direct proportion to the cost of hospitalisation. The relative effectiveness of the two different methods of reimbursement (at protecting members from the cost of hospitalisation) will depend, of course, on the value at which reimbursement is capped and the percentage to which costs are reimbursed.

Provision of reimbursement (or discount) at the time of service use provides, ceteris paribus, greater financial protection than reimbursement that is provided with delay. Members of a CBHI may face many challenges in compiling their own insurance claims – the process can consume a member's energy, time and money. Distance from place of residence to the nearest claims facility may further complicate the process.

Single versus multiple health care providers

The TF hospital referral scheme was associated with a single referral hospital. As a result, TF administrators had ready access to information about the nature and cost of services provided to its members, had some influence over the services provided at Shri Krishna Hospital, and could provide reimbursement directly to the hospital. The scheme was unpopular among some beneficiaries for lack of alternate providers; they cited variety of problems with the referral hospital including its location, cost and poor quality of care. SEWA members enjoyed a virtually unlimited choice of inpatient providers. However, scheme administrators had virtually no direct contact with health care providers, and could not monitor the cost or quality of services provided, exert influence on the providers, or pay providers directly. *It appears that linking with a single hospital may result in low rates of utilisation if members perceive there to be problems of geographic accessibility, cost or quality or lack of choice. When a CBHI scheme is not associated with a single hospital facility (or a limited number of facilities), it is administratively difficult to monitor the cost and/or quality of care, to exert influence on the provider (for example, to improve a higher quality or more cost-effective service), or to reimburse the health care provider directly.*

Links with a parent organisation

TF's links with the local dairy co-operative helped it to recruit members, while development-oriented services offered by SEWA Union may have enabled women to join the IIS and created a sense of trust in SEWA. Both schemes undoubtedly made use of the staff and infrastructure of their parent organisations in their efforts

to recruit and retain members. *Findings related to the importance of a parent organisation must be interpreted cautiously, given that no control (i.e. a free-standing CBHI scheme) is available in this study. Nonetheless, it appears that a parent organisation may help to create a context in which its members are more willing to purchase insurance (e.g. sense of community, sense of dedication to the insurer) or have a greater ability to pay the premium (e.g. due to income generating activities or savings and credit facilities). Furthermore, a parent organisation may facilitate the enrolment of new members in a CBHI scheme, or retention of old members, by lending its staff and infrastructure to the effort. Technical skills and support (accounting, managerial) provided by the parent organisation may enhance a CBHI scheme's financial viability.*

Mechanisms for protecting against adverse selection

To some extent, those who initiated and administered TF's hospital referral scheme saw adverse selection as a goal rather than a threat to the scheme's financial viability; they aimed specifically to increase access to hospitalisation among TF's poorest and sickest members. Administrators at SEWA's IIS, on the other hand, aimed to protect the financial security of its members, but at the same time to run a largely financially self-sustaining scheme. Members of the IIS were older and unhealthier than the general population, perhaps owing to membership at the individual-level. *It seems that, depending on a CBHI scheme's goals and objectives, the over-inclusion of the aged and the ill (disproportionate to their numbers in the target population) may be viewed as effective targeting rather than adverse selection. Enrolment of individuals rather than groups (for example, households or villages) may result in – and nullify other efforts to prevent – adverse selection.*

Underlying objectives for the scheme

For neither scheme were the objectives, as stated by scheme participants, fully consistent with the indicators of economic impact traditionally used to assess CBHI schemes, namely increased access to health care, and decreased financial burden (to

the insured) of health care. For example, administrators of TF's hospital referral scheme hoped that it would provide free hospitalisations for very poor and sick TF members, and at the same time would help fill beds at the referral hospital. Members of TF were largely unaware of the hospital referral scheme, but those who were thought that a discount (for all members regardless of income) on the cost of hospitalisation was the primary benefit. *It appears that the different participants in a CBHI scheme may have different objectives for the scheme. Participants' objectives for a scheme may not be consistent with indicators traditionally used to assess CBHI schemes, such as increased access to health care and protection from the costs of health care. A CBHI scheme designed to address objectives other than increased access to health care and protection from the costs of health care may perform poorly if assessed by these standards.*

Collection, analysis and use of data

Administrators of both schemes had available to them raw data relating to scheme utilisation (including name of the hospitalised member, duration of hospitalisation, total direct cost, reimbursement/discount provided, etc.). However, these data were not routinely analysed or used to make improvements to the schemes. *Based on these observations, it appears that evidence-based decision making is not necessarily part of CBHI management culture. Technical assistance may be required by CBHI scheme administrators in order to develop impact indicators and draw on external sources of information.*

Adaptability

Over its nineteen years of functioning, virtually no changes were made to the design of TF's hospital referral scheme until the final year. Virtually all aspects of SEWA's IIS, on the other hand, had been changed since 1992 in order to respond to members' needs. *It seems that failure of a scheme to change in response to members' needs may be associated with decreased overall impact and financial sustainability.*

Education and communication

For both schemes, low levels of awareness contributed to low rates of scheme utilisation. Under the TF scheme, this occurred in some cases as the household had been enrolled (perhaps without being informed) by the local dairy cooperative secretary. Under both schemes, lack of awareness was in some cases related to failure of the household member who purchased the membership to pass information on to others in the household. *It appears that ongoing education of, and communication with, scheme members may be required in order to make members aware of a scheme and its benefits. In cases where membership is not sold directly to all members (e.g. it is purchased by another household member, or by one member on behalf of a household or village) levels of awareness may be particularly low among those who did not pay the premium.*

CONTRIBUTIONS TO THEORY

According to the utility maximising model, an individual's demand for private health insurance will be determined by a variety of factors including the price of insurance, the individual's assessment of the probability of loss resulting from illness, and income (see Chapter 3). The findings of this study support the utility maximising model insofar as membership (particularly in SEWA's IIS) was determined by the affordability of the premium, availability of money in the household to pay for the premium, and the probability of falling ill (with the old and ill more likely to join the scheme). However, the case-study findings suggest that other factors are an important influence on an individual's demand for insurance. First, health insurance sold through CBHI schemes may be (more often than not) bundled with other products, for example, reduced cost primary and preventive care or other types of insurance. In such a scenario it may be impossible, empirically, to tease out the demand for health insurance versus the demand for these other services. Second, demand for CBHI may be influenced by whether it is associated with a larger (parent) organization, and the nature of this organization's activities. For

example, people may be more likely to join a scheme if the activities of the parent organization result in a sense of affiliation among its members, and a sense of trust in the organization. There may be parallels here to the brand-name effect common in more open and competitive markets. SEWA's IIS scheme employed (purposefully or otherwise) various mechanisms to enhance demand that have ultimately resulted in a broad enrolment. The use of such mechanisms was viewed by Stinson (1982) as an important determinant of the success of CBHI schemes.

The differences between (theoretical) determinants of demand for private-for-profit health insurance and determinants of demand for CBHI, are due in part to the fact that real-world health insurance schemes and markets are not as simple as the models on which economic theory is based. They result also from differences in the underlying objectives of different types of schemes. The purpose of a private-for profit insurer operating in an open and competitive market is to supply a product up until the point at which marginal revenues are equal to marginal costs of producing the insurance, with the objective of maximising profits. CBHI schemes, like social health insurance schemes, are not driven by the profit-motive. Social insurance schemes are generally implemented in developing countries with the primary objective of mobilising funds (Normand 1999; Kutzin and Barnum 1992) "to relieve a shortage of government budgetary resources for health care relative to an increasing demand and need for care" (Kutzin 1997, p. 3). Membership is almost always mandatory among those working in the formal sector. In some cases they have met with limited success owing to small formal-sector populations relative to the total population, and inefficient spending of funds (Kutzin 1997; Kutzin and Barnum 1992). The objectives of CBHI schemes appear to be more varied, and less predictable, than those of either private-for-profit or social insurance schemes. This study suggests that the objectives that underlie a CBHI scheme may be quite specific, for example, to provide hospitalisation to the very poor and vulnerable, or increase utilisation of a specific facility.

The problems of adverse selection and moral will hazard not necessarily be

considered as problematic under CBHI schemes. Adverse selection is a problem for the for-profit insurer because "the population that purchases the insurance will be skewed towards the high risks and the insurer will face net financial loss" (Chapter 3). Moral hazard may be problematic to the for-profit insurer, for example, when the insured increase the frequency with which they make use of inpatient care (at cost to the insurer) as a result of being protected against its costs. This study suggests that CBHI schemes may actually target, and increase access to hospitalisation among, those who are in greatest need of the services covered under the insurance. Adverse selection and moral hazard may be encouraged among certain groups (for example, the poor, the chronically ill) with the aim of improving their welfare. Thus, phenomena that are termed adverse selection and moral hazard in a for-profit context may, in some cases, be viewed as goals of CBHI. The extent to which they can be pursued as goals will depend on the availability of sufficient funding, both from within the scheme and from external sources.

Evaluations of CBHI schemes should thus differentiate between two different types of adverse selection and moral hazard. On the one hand, adverse selection and moral hazard may be consistent with a scheme's objectives to increase health care utilisation among the poor and unhealthy. In this case, the costs of increased utilisation would presumably be expected, and budgeted for, by scheme administrators. On the other hand, adverse selection and moral hazard may result in utilisation of health care services over and above what is planned by CBHI scheme administrators. The costs of this unplanned over-consumption of services would not have been included in a scheme's budget, and could endanger the scheme's financial viability.

Thus, it may be inappropriate to apply the standards used to assess the impact of private-for-profit insurers (or social insurance schemes) to CBHI schemes operating in developing countries. At present, there is not a standard set of impact indicators that can be used to assess CBHI schemes. A useful step towards this goal might be a system for classifying CBHI schemes, based not on their ownership or the types of

services covered (Bennett, et al. 1998) but rather on the underlying objectives the schemes are intended to achieve. For example, CBHI schemes might be categorised on the basis of stated target population and/or intended impact on health care. Targeted populations might include: the poor, informal sector labourers, women, members of a specific occupational group, members of a work cooperative, residents of a specific geographic area or those who use a certain health care facility. Stated goals relating to health care might include: improved quality of care, improved accessibility (for example, reduced distance between client and provider), increased utilisation (this could include increased bed-occupancy rates), or decreased out-of-pocket price. Further, these health care goals might relate specifically to outpatient and primary care, inpatient care, or to care provided through a specific facility. A CBHI scheme that aims to target the very poor with a focus on increasing access to health care at all levels might be evaluated based on different criteria than a scheme that targets the members of a work cooperative and aims to improve the quality of health care at a single inpatient facility. From the perspective of government (say a representative of the Ministry of Health), the former scheme might be considered successful if it results in the equitable redistribution of resources, while financial sustainability might be considered less important (perhaps such a scheme could be provided with subsidies). The latter scheme, on the other hand, might best be evaluated in terms of technical quality of health care, consumer satisfaction and financial sustainability.

The findings of the study do not support the WHO's view that "insurance schemes designed to expand membership among the poor offer a path for government – with external funding partners – to a rapid improvement in the health of the most vulnerable" (WHO 2000, p. 139). For example, SEWA's IIS, despite having survived for almost ten years, and despite having a large and increasing membership, appears to have contributed little to broader health system goals.

The literature review (Chapter 3) revealed that health insurance (particularly social health insurance schemes in Western European countries) could have many social

consequences. This study suggests that such social consequences have not yet resulted from the case-study schemes. This may reflect contextual (including cultural) differences; for example, the investigation of social consequences may be more yielding where CBHI scheme members are more aware of the scheme and its benefits, and have actually had experience in using the scheme. Alternatively, as already discussed, this study may have asked the wrong questions, or applied the wrong methodology, to come to a categorical conclusion on the issue of social consequences.

There are a number of reasons to believe that social capital might enhance demand for CBHI. Altruistic feelings between members of a group or community, traditions of collaboration and co-operation among its members, and greater trust in the health insurer may all contribute to make people more willing to enrol in an insurance scheme. This study joins the empirical work of Liu (2001) in suggesting that social capital is, indeed, an important determinant of people's willingness to participate in a CBHI scheme. This study does not support the theory that social capital may benefit CBHI schemes in other ways, for example, by preventing adverse selection, moral hazard, free riding or fraud. To some extent, this may reflect the fact that the CBHI schemes had not aimed to prevent these things.

Consistent with previous studies in India, this study found that government had played no role in the schemes. This is consistent with findings in certain other countries. Take for example the Bwamanda hospital insurance scheme in the Democratic Republic of Congo (Criel 1998b, p. 25):

> *The overall environment in which the (Bwamanda hospital insurance) initiative took place was characterised by the virtually total absence of the state, both in terms of resource allocation and in terms of planning, regulation, control, etc.*

Bennett, et al. concluded (1998) that government has an important role to play in facilitating the success of schemes by developing a clear policy framework, facilitating scheme development, monitoring and regulating the schemes, and providing subsidies. As is discussed below, many factors may determine whether or

not government involvement is required or beneficial. Administrators of the two Indian CBHI schemes expressed, off-the-record, that government involvement (presumably district, state or central level) would be likely to do more harm than good, as many government officials are corrupt or self-interested.

In agreement with other authors, this study finds that scheme design and management are of great importance in determining whether or not the scheme will have the desired impact. In general, aspects of design and management that are of importance include: mechanisms to promote enrolment in the scheme; ongoing provision of education and information to scheme members; collection and analysis of data in order to make improvements to the scheme; and the ease, accessibility, timeliness and quality of benefits available under the scheme. This study lends support to Bennett, et al.'s (1998, p. 61) conclusion that "Many of the schemes examined had been poorly designed and had encountered a range of problems as a result." Similarly, a literature review of all Indian schemes (Chapter 3) revealed that most authors had attributed the success or failure of the schemes to aspects of design or management.

This study lends some support to the conclusion by several other authors that outside financial and organisation support is vital to the success of such schemes (Bennett, et al. 1998; de Ferranti 1986). Both schemes studied had received support (including staff, infrastructure, perhaps accounting expertise) from their parent organisations. As well, both schemes relied to some degree on funding from external donors. However, the study finds that over-reliance of external funding may actually contribute to the downfall of a scheme.

This study has contributed to knowledge around the "economic consequences" of CBHI, perhaps most importantly by identifying factors related to context, design and management that may facilitate participation in the schemes, utilisation of the schemes, financial protection under the schemes, and financial sustainability. The study revealed little about the potential social consequences of CBHI schemes. This

most likely resulted from scheme members' limited knowledge and utilisation of the case-study schemes. Different methods of qualitative data collection might have been more sensitive to social consequences. Finally, this study was one of the first to look at the importance of social capital as a determinant of the success of CBHI. The study provides insights into how social capital can facilitate success by drawing people into a CBHI scheme.

POLICY IMPLICATIONS FOR DEVELOPING COUNTRIES

This section opens with a summary of implications for those (individuals or organizations) who run, or who wish to design and implement, CBHI schemes in developing countries. It then addresses the more difficult issues pertaining to governments in developing countries that consider playing a role in CBHI.

Several aspects of context are likely to influence the success of CBHI schemes, either in terms of enrolling members, or achieving health system's goals among those who do join. Contextual factors that may facilitate enrolment in CBHI include:

- A sense of affiliation or community within the target population;
- A degree of economic well-being such that individuals or households are able to afford the premium.

As already discussed, an insurer may be able to create an enabling environment for CBHI by engaging in other development-oriented activities (e.g. micro-credit schemes, production-based cooperatives, income generating projects), or linking with another organisation, perhaps even governmental, involved in such activities.

This study finds that aspects of scheme design and management are particularly important in determining a scheme's impact. Scheme design and management will generally be amenable to intervention, either by scheme administrators, or with technical and/or financial support from government or external donors. This study did not reveal a design template that is likely to achieve impact in all settings. However, some basic principles did emerge that might help to optimise the impact of

other schemes. For example:

- Packaging of health insurance with other services may bring members into a scheme, but care must be taken to ensure that members are educated specifically around the health insurance component and its benefits;
- Willingness and capacity among management to make changes to the scheme may enhance its sustainability;
- Ongoing education of, and communication with, scheme members is required to develop an awareness of the scheme among members, and facilitate scheme utilisation;
- Nesting of a CBHI scheme within a parent organisation may enhance overall rates of membership under the CBHI scheme;
- A fixed cap on the amount reimbursed (or discounted) may be less effective at protecting CBHI members from very expensive hospitalisations than reimbursement (or discount) that varies in direct proportion to the cost of hospitalisation;
- Provision of reimbursement (or discount) at the time of service use provides, ceteris paribus, greater financial protection than reimbursement that is provided with delay;
- The process of claiming reimbursement under a CBHI scheme should be made as fast, easy and inexpensive as possible. Mechanisms may need to be put in place to facilitate the submission of claims among disadvantaged groups, such as the illiterate, those living in rural/isolated areas, women, etc.;
- Linking with a single (or limited number of) hospital(s) may result in low rates of utilisation if members perceive there to be problems of geographic accessibility, cost or quality. However, by linking to one (or a few) providers, a CBHI can become a strategic purchaser of health care, attempting to influence the behaviour of the provider(s) so as to maximise quality and efficiency while at the same time keeping costs under control. Conversely, a scheme that permits the use of any one of many hospitals provides its members with provider options, and as such it may achieve higher rates of membership and scheme utilisation. However, the insurer may have more difficulty in exercising any influence over the providers, or in monitoring the cost and the quality of care they are providing.

This study sheds little light on whether, to what extent, or how, government should play a role in community-based health insurance. The degree and nature of government involvement in CBHI schemes varies tremendously from one country to another (see Ranson and Bennett 2002, Appendix 12). Government (local, state and national) had no direct role in either of the two case-study schemes. Nonetheless, the study does reveal some of the important issues that may be faced by a government considering involvement in CBHI.

Before intervening in CBHI, a government should consider why it is doing so. Presumably, governments would typically be turning to CBHI schemes for help in meeting such health system goals as better health, fair financing, and responsiveness (WHO 2000). Where CBHI schemes are already in existence, some effort may first have to be made to explore the objectives that underlie them. These objectives may differ among participants in a CBHI scheme. And even where there is consensus among participants, the objectives for a scheme may differ from (or even run counter to) a government's health system goals.

Where government does decide that CBHI can help to meet its health system goals, a quick-fix should not be expected. The WHO's view that CBHI can result in "a rapid improvement in health of the most vulnerable" appears to be overly optimistic (WHO 2000, p. 139). In contrast, this study suggests that even where context is conducive to large CBHI scheme size, the desired impact may fail to materialize, or may do so only after many years.

It must be decided whether CBHI represents the most efficient means for government to achieve its social objectives, and whether government intervention is likely to do more benefit than harm. While CBHI may represent one path to achieve health system goals, there may be others (such as greater government financing of health care). As well, it should be recognised that government involvement can have negative consequences for CBHI schemes (Ranson and Bennett 2002).

Government intervention may prove harmful in settings where government is corrupt or self-interested. For example, government may see CBHI schemes as an easy source of income through extortion. Even well-intentioned and well-executed government can change the nature of a CBHI scheme. Increased government regulation and control may change a community-financed scheme from bottom-up (participatory) to a top-down organisation, where decisions are made centrally and handed down to scheme managers.

Finally, government must identify, and choose between, interventions that may lessen or overcome obstacles to the success of CBHI schemes (and the achievement of health system's goals). Such mechanisms include: creation of an enabling context, stewardship, and transfer of resources, both financial and non-financial. For example, the most commonly used mechanism is the indirect transfer of resources from government to the CBHI scheme, usually in the form of free or reduced-cost health care services at government facilities (Ranson and Bennett 2002). The optimal package of mechanisms will vary from one country to another, and within one country as it moves through different stages of development, particularly as health insurance coverage increases.

RECOMMENDATIONS FOR FUTURE RESEARCH

While the findings of this study have addressed its main objectives, they have also highlighted gaps in the theory and knowledge regarding CBHI. Furthermore, because the two schemes studied here are distinct in certain of their underlying objectives, the context in which they function, and certain aspects of their design and management, some of the findings were of limited generalisability. Research in other settings will serve to corroborate or refute the generalisability of such findings.

In general, future research around CBHI can contribute to knowledge by doing one or more of the following. First, similar methodologies can be used to study similar impacts and relationships, but in different settings. Second, similar aspects of CBHI (impacts, context, design and management) can be studied, but using different

methodologies. For example, in looking at the association between membership in a CBHI scheme and access to health care, or health status, more advanced epidemiological studies could be used, such as prospective observational or intervention studies. Thirdly, studies may examine different aspects of CBHI schemes to those examined here, for example, the impact of CBHI schemes on quality of health care, or the impact on access to preventive and primary care services.

This study found that the aims and objectives that participants hoped to achieve through a CBHI scheme influenced its design and management, and ultimately its impact. Objectives such as increased access to health care, and protection of households from the costs of health care may be dominated by other objectives. Future research should investigate the aims and objectives of different participants in CBHI schemes as the schemes are being conceived and implemented. How is a consensus reached as to how the scheme is ultimately designed, managed and monitored? To what extent do members of the target population actually have a say in these matters, and are there mechanisms that can be put in place to ensure that the community's needs are heard and met by scheme administrators? If a system for classifying CBHI schemes by their objectives were devised, might this facilitate comparisons between schemes, and generalisations from one scheme to others with similar objectives?

This study found that schemes failed to increase access to hospitalisation and to significantly decrease household expenditures on hospitalisation among their members. However, the survey data were for one point in time only. Research should look into types of systems that can be put in place to allow ongoing, prospective, cost-effective collection and analysis of data. Furthermore, research should look into how such data can best be fed back to participants in the scheme, and used to optimise scheme design and management.

Various aspects of scheme impact were only touched upon in this study and deserve further attention. This study looked at coverage (by socio-economic groups) under the schemes and (based on limited data) at the equity of access to benefits under the two schemes. Future research should examine the extent to which CBHI schemes actually impact on equity. Are there quantifiable resource transfers from the wealthy from the poor, and from the healthy to the ill? What research methodologies and impact indicators best capture these transfers? What aspects of context and scheme design and management result in more equitable schemes? Investigation is also required into the quality of health care available through CBHI schemes, and interventions that can be put in place to optimise quality.

At least in India, it is likely that a better measure of wealth is required in order to assess the equity impact of health insurance schemes. Ideally, such a measure could be administered in a short amount of time, alongside questions about health care utilisation and expenditure. Several proxy measures for wealth have been developed, but they tend to be context-specific, and will require pilot testing before being used in the evaluation of CBHI schemes.

Given that the potential social consequences of CBHI could not adequately be examined in this study – owing largely to members' lack of awareness and low frequency of scheme utilisation – research in other settings should explore such consequences. As mentioned previously, social consequences may be best investigated using a "more loosely structured, emergent, inductively grounded approach to gathering data" (Miles and Huberman 1994, p. 17).

Relatively little could be concluded from this study about the importance of context, in part because only two schemes were examined and many aspects of context did not vary between them. Future in-depth, case-study research should assess the importance of context, by comparing across a variety of settings. Given that social capital was found in this study to impact on one's willingness to join a CBHI scheme, it deserves attention in future studies. It has been suggested that social

capital may be more important to (and perhaps more easy to measure for) smaller, community-based schemes that cover outpatient preventive and/or primary care (Bennett, et al. 1998). As well, the role that government can play in optimising a CBHI scheme's impact, including its impact on broader health system's goals, deserves attention.

This study, like others before it, found that aspects of scheme design and management were key to a scheme's impact. It may be useful for future case-study research to examine the associations between design, management and impact, to ensure that these findings are generalisable to other settings. But more importantly, longitudinal studies should examine how the impact of CBHI schemes changes with the implementation of interventions aimed at improving scheme design and management. Further, the relative cost-effectiveness of such interventions should be studied. Given the findings of this study, the types of interventions that could be studied include:

- Putting in place a system for ongoing collection and analysis of data;
- Building the capacity of scheme administrators to monitor the quality of care being financed under the scheme, and to act as a strategic purchasers of health care for scheme members;
- Educating members on an a regular basis around the scheme and its benefits;
- Educating managers (or providing technical assistance) regarding aspects of financial planning and management, for example, the use of different sources of funding, setting premium rates, deciding how to allocate resources;

Targeting scheme membership or benefits towards certain vulnerable groups (for example, women, the elderly, or the chronically ill).

REFERENCES

Akin, J.S., Birdsall, N. and de Ferranti, D. (1987), *Financing Health Services in Developing Countries: An Agenda for Reform*, Washington, D.C., The World Bank.

Anonymous (2001), 'Where does state's BPL figure stand?' *The Times of India*, Ahmedabad.

Arhin, D.C. (1995), *Rural health Insurance: A Viable Alternative to User-Fees?*, London, London School of Hygiene & Tropical Medicine.

Arhin-Tenkorang, D. (2001), 'Health Insurance for the Informal Sector in Africa: Design Features, Risk Protection, and Resource Mobilization', Geneva, Commission on Macroeconomics and Health.

Arrow, K.J. (1963), 'Uncertainty and the welfare economics of medical care', *The American Economic Review*, LIII, 5, 941-73.

Athmaraman, T.N. (1995), 'The cost effective and affordable health insurance scheme: A profile of experience of Voluntary Health Services', *International Workshop on Health Insurance in India*, Bangalore, India.

Atim, C. (1998), 'Contribution of Mutual Health Organizations to Financing, Delivery, and Access to Health Care: Synthesis of Research in Nine West and Central African Countries', Bethesda, Maryland, Abt Associates Inc.

Atim, C. (1999), 'Social movements and health insurance: a critical evaluation of voluntary, non-profit insurance schemes with case studies from Ghana and Cameroon', *Social Science and Medicine*, 48, 7, 881-96.

Atim, C.B., Diop, F.P., Ette, J., Evrard, D., Marcadent, P. and Massiot, N. (1998), 'The Contribution of Mutual Health Organizations to Financing, Delivery, and Access in Health Care in West and Central Africa: Summaries of Synthesis and Case Studies in Six Countries', Bethesda, Maryland, Abt Associates Inc.

Banerji, D. (1994), 'A Simplistic Approach to Health Policy Analysis: The World Bank Team on the Indian Health Sector', *International Journal of Health Services*, 24, 1, 151-9.

Banerji, S. (1995), 'The student health scheme: A West Bengal experiment', *International Workshop on Health Insurance in India*, Bangalore, India.

Barr, N. (1998), *The Economics of the Welfare State* (Third Edition). Oxford. Oxford University Press.

Beall, J. (1997), 'Social capital in waste -- a solid investment?' *Journal of International Development*, 9, 7, 951-61.

Bennett, S. (2001), 'E-mail communication of 19/12/2001'.

Bennett, S., Creese, A. and Monasch, R. (1998), *Health Insurance Schemes for People Outside Formal Sector Employment*, Geneva, Division of Analysis, Research and Assessment, World Health Organization.

Bennett, S. and Muraleedharan, V. (1998), 'Reforming the role of government in Tamil Nadu health sector', Birmingham, Development Administration Group, University of Birmingham.

Berman, P. (1995), 'Financing of rural health care in India: Estimates of the resources available and their distribution', *International workshop on Health Insurance in India*, Bangalore, India.

Berman, P. and Dave, P. (1996), 'Experiences in paying for health care in India's voluntary sector', *International Journal of Health Planning and Management*, 11, 33-51.

Berman, P. and Khan, M.E. (1993), 'Introduction', *in* Berman, P. and Khan, M.E. (eds.), *Paying for India's Health Care*, London, Sage Publications.

Besley, T. (1995), 'Savings, Credit and Insurance', *in* Behrman, J. and Srinivasan, T.N. (eds.), *Handbook of Development Economics*, Elsevier Science B.V.

Bhat, R. (1993), 'The private health care sector in India', *in* Berman, P. and Khan, M.E. (eds.), *Paying for India's health care*, London, Sage Publications.

Bhat, R. (1996), 'Regulation of the private health sector in India', *International Journal of Health Planning and Management*, 11, 253-74.

Bhat, R. (1999), 'Characteristics of private medical practice in India: a provider perspective', *Health Policy and Planning*, 14, 1, 26-37.

Bhat, R., Verma, B.B. and Reuben, E. (2001), 'Hospital Efficiency: An empirical analysis of district and grant-in-aid hospitals in Gujarat', Ahmedabad, Indian Institute of Management.

Bogg, L., Hengjin, D., Keli, W., Wenwei, C. and Diwan, V. (1996), 'The cost of coverage: rural health insurance in China', *Health Policy and Planning*, 11, 3, 238-52.

Brown, L.D. and Ashman, D. (1996), 'Participation, Social Capital, and Intersectoral Problem Solving: African and Asian Cases', *World Development*, 24, 9, 1467-79.

Bulletin of the World Health Organization (Anonymous Reviewer) (2001), 'Written communication of 8/12/01'.

Burchardt, T. and Hills, J. (1997), *Private Welfare Insurance and Social Security: Pushing the Boundaries*, York, Joseph Rowntree Foundation.

Caldwell, J.C., Reddy, P.H. and Caldwell, P. (1986), 'Periodic high risk as a cause of fertility decline in a changing rural environment: survival strategies in the 1980-83 south Indian drought', *Economic Development and Cultural Change*, October, 677-701.

Central Bureau of Health Intelligence (1995), *Health Information of India*, New Delhi, Government of India.

Central Bureau of Health Intelligence (1996), *Health Information of India*, New Delhi, Government of India.

Chatterjee, M. and Vyas, J. (1997), 'Organizing Insurance for Women Workers: The SEWA Experience', Ahmedabad, Self Employed Women's Association.

Chauhan, D., Antia, N.H. and Kamdar, S. (1997), *Health Care in India: A Profile*, Mumbai/Pune, The Foundation for Research in Community Health.

Cloud, K. (1978), 'Sex Roles in Food Production and Distribution Systems in the Sahel', *Women in International Development, International Conference on Women and Food*, University of Arizona, Tucson, USAID/Office on Women in Development, Washington, DC.

Coast, J. (1999), 'The appropriate use of qualitative methods in health economics', *Health Economics*, 8, 345-53.

Coleman, J.S. (1988), 'Social Capital in the Creation of Human Capital', *American Journal of Sociology*, 94, Supplement, S95-S120.

Coleman, J.S. (1990), *Foundations of Social Theory*, Cambridge, MA, Harvard University Press.

Collier, J. (1996), 'Medicines mismatch', *The Lancet*, 347, 212.

Criel, B. (1998a), 'District-based Health Insurance in sub-Saharan Africa: Part I. From Theory to Practice', *Studies in Health Services Organisation & Policy*, 9, 149 pages.

Criel, B. (1998b). 'District-based Health Insurance in sub-Saharan Africa: Part II. Case-studies', *Studies in Health Services Organisation & Policy*, 10, 91 pages.

Criel, B. and Kegels, G. (1997), 'A health insurance scheme for hospital care in Bwamanda district, Zaire: lessons and questions after 10 years of functioning', *Tropical Medicine and International Health*, 2, 7, 654-72.

Culyer, A.J. (1993), 'Health Care Insurance and Provision', *in* Barr, N.A. and Whynes, D. (eds.), *Issues in the Economics of the Welfare State*, London, Macmillan.

Datt, G. (1998), 'Poverty in India and Indian states: an update', Washington, D.C., International Food Policy Research Institute.

Dave, P. (1993), 'Community and self-financing in voluntary health programs in India', *in* Berman, P. and Khan, M.E. (eds.), *Paying for India's Health Care*, New Delhi, Sage Publications.

Dave, P. and Berman, P. (1990), *Case Study 1: The Voluntary Health Services, Madras*, New Delhi, Ford Foundation.

Dave Sen, P. (1997), 'Community control of health financing in India: A review of local experiences', Bethesda, Maryland, Abt Associates Inc.

de Ferranti, D. (1986), 'Paying for Health Care in Developing Countries', Washington, D.C., The World Bank.

de Swaan, A. (1988), *In Care of the State: Health care, education and welfare in Europe and the USA in the modern era*, Cambridge, Polity Press.

Diop, F., Yazbeck, A. and Bitran, R. (1995), 'The impact of alternative cost recovery schemes on access and equity in Niger', *Health Policy and Planning*, 10, 3, 223-40.

Duan, N., Manning, W.G., Morris, C.N. and Newhouse, J.P. (1982), 'A Comparison of Alternative Models for the Demand for Medical Care', Santa Monica, CA, Rand.

Duggal, R. and Amin, S. (1989), 'Cost of Health Care: A Household Survey in an Indian District', Bombay, Foundation for Research in Community Health.

Duggal, R. and Antia, N.H. (1993), 'Health financing in India: A review and an agenda', *in* Berman, P. and Khan, M.E. (eds.), *Paying for India's Health Care*, London, Sage Publications.

Duggal, R., Nandraj, S. and Vadair, A. (1995), 'Health expenditure across states -- Part I', *Economic and Political Weekly*, April 15, 834-44.

Durkheim, E. (1967), *Le suicide: Etude de sociologie.*

Egolf, B., Lasker, J., Wolf, S. and Potvin, L. (1992), 'The Roseto Effect: A 50-Year Comparison of Mortality Rates', *American Journal of Public Health*, 82, 8, 1089-92.

Ellis, R.P., Alam, M. and Gupta, I. (1996), 'Health Insurance in India: Prognosis and prospectus', Unpublished.

Ellis, R.P., McInnes, D.K. and Stephenson, E.H. (1994), 'Inpatient and outpatient health care demand in Cairo, Egypt', *Health Economics*, 3, 183-200.

Fabricant, S.J. (1992), 'Community financing in Sierra Leone: affordability and equity of primary health care costs', *Faculty of Medicine*, London, University of London.

Fairbank, A. and Putney, P. (1998), 'Sustaining Community-Based Health Care Systems in Gujarat, India', Bethesda, Maryland, Partnerships for Health Reform, Abt Associates Inc.

Feacham, R. (1998), 'The Liberalisation of Health Insurance in India', Letter to Secretary, Ministry of Health and Family Welfare.

Filmer, D. and Pritchett, L.H. (2001), 'Estimating wealth effects without expenditure data--or tears: an application to educational enrollments in states of India', *Demography*, 38, 1, 115-32.

Foley, M.W. and Edwards, B. (1999), 'Is It Time to Disinvest in Social Capital?' *Jnl Publ. Pol.*, 19, 2, 141-173.

Giridhar, G. (1993), 'Concepts and practices in health care insurance schemes and recent examples in India', *in* Berman, P. and Khan, M.E. (eds.), *Paying for India's Health Care*, London, Sage Publications.

Giridhar, G., Satia, J.K., Pandey, I.M., Dholakia, B.H. and Dholakia, R.H. (1987), 'Study of health care financing in India: based on case studies in Maharashtra and West Bengal', Ahmadabad, Indian Institute of Management.

Government of Gujarat (1996), *Health Review, Gujarat, 1995-96*, Gandhinagar, Government of Gujarat.

Government of Gujarat (Directorate of Economics and Statistics) (2000), *Socio-Economic Review, Gujarat State, 1999-2000*, Gandhinigar, Government of Gujarat.

Griffin, C.C. and Shaw, P.R. (1995), 'Health Insurance in Sub-Saharan Africa: Aims, Findings, Policy Implications', *in* Shaw, P.R. and Ainsworth, M. (eds.), *Financing Health*

Services through User Fees and Insurance: Case Studies from Sub-Saharan Africa. Washington, D.C., The World Bank.

Grosh, M.E. and Baker, J.L. (1995), 'Proxy Means Tests for Targeting Social Programs: Simulations and Speculation'. Washington. D.C., World Bank.

Gujarati, D.N. (1995), *Basic Econometrics* (Third Edition), New York, McGraw-Hill, Inc.

Gumber, A. (2001), 'Hedging the health of the poor: the case of community financing', Washington, DC, The World Bank.

Gumber, A. and Kulkarni, V. (2000), 'Health insurance for informal sector: case study of Gujarat', *Economic and Political Weekly*, September 30, 3607-13.

Gupta, J.P., Sharma, B.B.L., Gupta, Y.P., Dhingra, R. and Nair, K.S. (1992). *Financing of Health Care in Non-State Sector in India: An Exploratory Study of Corporate Institutions and Private Voluntary Organisations*, New Delhi, Department of Planning and Evaluation, National Institute of Health & Family Welfare.

Gupta, M.C. (1997), 'Privatisation of Health Care', *Journal of the Indian Medical Association*, 95, 9, 513-4.

Gupta, S., Verhoeven, M. and Tiongson, E. (2001), 'Public Spending on Health Care and the Poor', Washington, D.C., International Monetary Fund.

Haddad, L., Hoddinott, J. and Alderman, H. (eds.) (1997), *Intrahousehold Resource Allocation in Developing Countries: Models, Methods, and Policies*, International Food Policy Research Institute and Johns Hopkins University Press, Baltimore, Maryland.

Hanger, J. and Moris, J. (1973), 'Women and the Household Economy', *in* Chambers and Moris, J. (eds.), *Mwea: An Irrigated Rice Settlement in Central Kenya*, Munich, Weltforum-Verlag, Afrika Studien.

Hanifan, L.J. (1916), 'The rural school community center', *Annals of the American Academy of Political and Social Science*, 67, 130-8.

Harriss, J. (1997), "Missing link' or analytically missing?: The concept of social capital', *Journal of International Development*, 9, 7, 919-37.

Hauck, K. (1998), 'The Social Security Program of the Self-Employed Women's Association, Ahmedabad, India', Geneva, Division of Health Promotion, Education & Communication, World Health Organization.

Heimer, C.A. (1985), *Reactive risk and rational action: Managing moral hazard in insurance contracts*, London, University of California Press.

Hsiao, W.C. (2001), 'Unmet Health Needs of Two Billion: Is Community Financing A Solution?' Boston, MA, Harvard School of Public Health.

Hsiao, W.C. and Dave Sen, P. (1995), 'Cooperative financing for health care in rural India', *International Workshop on Health Insurance in India*, Bangalore, India.

Hulley, S.B., Gove, S., Browner, W.S. and Cummings, R. (1988), 'Choosing the Study Subjects: Specification and Sampling', *in* Hulley, S.B. and Cummings, S.R. (eds.), *Designing Clinical Research: An epidemiologic approach*, London, Williams & Wilkins.

Ii, M. (1996), 'The Demand for Medical Care: Evidence from Urban Areas in Bolivia', Washington, D.C., The World Bank.

International Conference on Primary Health Care (1978), 'Declaration of Alma-Ata', *Lancet*, 2, Nov 11, 1040-1.

International Institute for Population Sciences and ORC Macro (2000), 'National Family Health Survey 1989-99', Mumbai, IIPS.

International Labour Office (1998), 'India: Final project report on social protection for the unorganized sector', New Delhi, India, ILO.

International Labour Office and STEP (2001), *Women organizing for social protection: The Self-employed Women's Association's Integrated Insurance Scheme, India*, Geneva, ILO: STEP.

International Monetary Fund (2000), *International Financial Statistics Yearbook*, Washington, D.C., IMF.

Jajoo, U.N. (1992), 'Risk-sharing in rural health care', *World Health Forum*, 13, 171-5.

Jajoo, U.N., Chhabra, S., Gupta, O.P. and Jain, A.P. (1985a), 'Annual cluster (pulse) immunization experience in villages near Sevagram, India', *Journal of Tropical Medicine and Hygiene*, 88, 277-80.

Jajoo, U.N., Gupta, O.P. and Jain, A.P. (1985b), 'Rural health services: towards a new strategy', *World Health Forum*, 6, 150-2.

Jakab, M., Preker, A., Krishnan, C., Schneider, P., Diop, F., Jutting, J., Gumber, A., Ranson, M.K. and Supakankunti, S. (2001), 'Social inclusion and financial protection

through community financing: initial results from five household surveys'. Washington. DC, The World Bank.

Jeffery, R. (1993), 'Health Sector Development and Financing in Pakistan and Some Comparisons with India', *in* Berman, P. and Khan, M.E. (eds.), *Paying for India's Health Care*, New Delhi, Sage Publications.

Jowett, M. (2000), 'Social capital and risk sharing in health: evidence from a survey in Vietnam', *Conference on Health Systems Financing in Low-Income African and Asian Countries*, Clermont Ferrand, France.

Jutting, J. (2000), 'Do mutual health insurance schemes improve the access to health care? Preliminary results from a household survey in rural Senegal', *Conference on Health Systems Financing in Low-Income African and Asian Countries*, Clermont Ferrand, France.

Jutting, J. (2001), 'The impact of mutual health insurance schemes on financial protection: Case study Senegal', Washington, DC, The World Bank.

Kapil, I. (1988), 'Doctors dispensing medications: Contemporary India and 19th century England', *Social Science and Medicine*, 26, 7, 691-9.

Kapil, I. (1990), 'When doctors sell medications...' *World Health Forum*, 11, 318-22.

Kawachi, I., Kennedy, B.P., Lochner, K. and Prothrow-Stith, D. (1997), 'Social Capital, Income Inequality, and Mortality', *American Journal of Public Health*, 87, 9, 1491-8.

Keen, J. and Packwood, T. (1995), 'Qualitative Research: Case study evaluation', *BMJ*, 311, 12 August, 444-6.

Kennedy, B.P., Kawachi, I., Prothrow-Stith, D., Lochner, K. and Gupta, V. (1998), 'Social Capital, Income Inequality, and Firearm Violent Crime', *Soc. Sci. Med.*, 47, 1, 7-17.

Kimball, S.L. (1960), *Insurance and Public Policy: A study in the legal implementation of social and economic public policy, based on Wisconsin records, 1835-1959*, Madison, The University of Wisconsin Press.

Knack, S. and Keefer, P. (1997), 'Does social capital have an economic payoff? A cross-country investigation', *The Quarterly Journal of Economics*, November, 1251-88.

Krishnan, T.N. (1996), 'Hospitalisation Insurance: A Proposal', *Economic and Political Weekly*, April 13, 944-6.

Kumar, S. (2001), 'Indian government's first update of national health policy in 18 years', *Lancet*, 358, September 15, 901.

Kutzin, J. (1997), *Health Insurance for the Formal Sector in Africa: "Yes, but..."* Geneva, World Health Organization.

Kutzin, J. and Barnum, H. (1992), 'Institutional Features of Health Insurance Programs and Their Effects on Developing Country Health Systems', *International Journal of Health Planning and Management*, 7, 51-72.

Lambo, E. (1996), 'Overview paper on prepayment schemes', *Senior Policy Seminar on Sustainable Health Care Financing*, Johannesburg, Programme Development and Management Unit, WHO Regional Office for Africa, Brazzaville, Congo.

Leonard, D.K. (2000), 'The New Institutional Economics and the Restructuring of Animal Health Services in Africa', *in* Leonard, D.K. (ed.), *Africa's Changing Markets for Health and Veterinary Services: The New Institutional Issues*, Basingstoke, England, Macmillan Press.

Life Insurance Corporation of India (2001), 'Website, http://www.licindia.com/lichome/index.shtml, accessed on 30 November, 2001'.

Liu, Y. (2001), 'Demand for community pre-payment schemes in health care', *Unpublished paper*.

Lochner, K., Kawachi, I. and Kennedy, B.P. (1999), 'Social capital: a guide to its measurement', *Health & Place*, 5, 259-70.

Lomas, J. (1998), 'Social Capital and Health: Implications for Public Health and Epidemiology', *Soc. Sci. Med.*, 47, 9, 1181-8.

Lorge Rogers, B. (1990), 'The Internal Dynamics of Households: A Critical Factor in Development Policy', *in* Lorge Rogers, B. and Schlossman, N.P. (eds.), *Intra-household Resource Allocation: Issues and Methods for Development Policy and Planning*, Tokyo, The United Nations University.

Mahapatra, P. and Berman, P. (1995), 'Resource allocation for public hospitals in Andhra Pradesh, India', *Health Policy and Planning*, 10, 1, 29-39.

Manning, W.G., Newhouse, J.P., Duan, N., Keeler, E.B., Leibowitz, A. and Marquis, M.S. (1987), 'Health Insurance and the Demand for Medical Care: Evidence from a Randomized Experiment', *The American Economic Review*, 77, 3, 251-77.

Mariam, D.H. (2000), 'Traditional insurance mechanisms and the choice of health care providers in Ethiopia', *in* Leonard, D.K. (ed.), *Africa's changing markets for health and veterinary services: the New Institutional Issues*, London, MacMillan Press Ltd.

Mathiyazhagan, K. (1998), 'Willingness to Pay for Rural Health Insurance Through Community Participation in India', *International Journal of Health Planning and Management*, 13, 47-67.

Mays, N. and Pope, C. (2000), 'Assessing quality in qualitative research', *BMJ*, 320, 50-2.

Mayur, S. (1998), 'GIC says no to healthcare business', *The Economic Times*, Mumbai.

McPake, B., Hanson, K. and Mills, A. (1992), *Implementing the Bamako Initiative in Africa*, London, Health Economics and Financing Programme, Health Policy Unit, Department of Public Health and Policy.

Meenakshi, J.V. and Ray, R. (1999), 'Regional differences in India's food expenditure pattern: a complete demand systems approach', *Journal of International Development*, 11, 47-74.

Miles, M.B. and Huberman, A.M. (1994), *An Expanded Sourcebook: Qualitative Data Analysis* (Second Edition), London, Sage Publications.

Miller, G. (1997), 'Building Bridges: The Possibility of Analytic Dialogue Between Ethnography, Conversation Analysis and Foucault', *in* Silverman, D. (ed.), *Qualitative Research: Theory, Method and Practice*, London, Sage Publications.

Mills, A. (1983), 'Economic aspects of health insurance', *in* Lee, K. and Mills, A. (eds.), *The Economics of Health in Developing Countries*.

Mills, A., Bennett, S. and Russell, S. (2001), *The Challenge of Health Sector Reform: What must Governments Do?*, London, Palgrave.

Mills, A.J. (1989), 'The application of cost-effectiveness analysis to disease control programmes in developing countries, with special reference to malaria control in Nepal', *Faculty of Medicine*, London, University of London.

Montgomery, M.R., Gragnolati, M., Burke, K. and Paredes, E. (1999). 'Measuring Living Standards with Proxy Variables', New York, Population Council.

Monthly Labor Review (1998), 'Health insurance affects the labor market'. *Monthly Labor Review*, 121, No. 6, 35.

Morris, S.S., Carletto, C., Hoddinott, J. and Christiaensen, L.J.M. (2000). 'Validity of rapid estimates of household wealth and income for health surveys in rural Africa', *J Epidemiol Community Health*, 54, 381-7.

Muraleedharan, V.R. (2000), 'Private-public partnership in health sector in India: A review of policy options and challenges (with special reference to Tamil Nadu, Kerala and Karnataka)', Chennai, Indian Institute of Technology.

Musau, S.N. (1999), 'Community-based health insurance: experiences and lessons learned from East and Southern Africa', Bethesda, Abt Associates.

Nandraj, S. (2000), 'Private health sector (India): concerns, challenges & options', Mumbai, Centre for Enquiry into Health & Allied Themes.

Naylor, C.D., Jha, P., Woods, J. and Shariff, A. (1999), *A Fine Balance: Some Options for Private and Public Health Care in Urban India*, Washington, D.C., The World Bank (Human Development Network).

Normand, C. (1999), 'Using social health insurance to meet policy goals', *Social Science and Medicine*, 48, 7, 865-9.

Office of the Registrar General (2001), 'Census of India', New Delhi, Government of India.

Pachauri, S. (ed.) (1994), *Reaching India's Poor*, Sage Publications, London.

Parker, R. (1975), 'The Study of Changing Social Policy', *in* Hall, P., Land, H., Parker, R. and Webb, A. (eds.), *Change, Choice and Conflict in Social Policy*, London, Heinemann.

Peters, D., Yazbeck, A., Sharma, R. and Ramana, G.N.V. (2001), 'Raising the sights: better health systems for India's poor', Delhi, The World Bank (Health, Nutrition, Population Sector Unit).

Poggi, G. (1972), *Images of Society: Essays on the Sociological Theories of Tocqueville, Marx, and Durkheim*, London, Oxford University Press.

Pradhan, M. and Prescott, N. (2000). 'Social risk management options for medical care in Indonesia', *Conference on Health Systems Financing in Low-Income African and Asian Countries*, Clermont Ferrand, France.

Prasad, K.V.E. (1998), 'Health Insurance for Tribals: ACCORD's Experience in Gudalur, Tamil Nadu', *in* van Ginneken, W. (ed.), *Social Security for All Indians*, Delhi, Oxford University Press.

Preker, A., Carrin, G., Dror, D., Jakab, M., Hsiao, W.C. and Arhin-Tenkorang, D. (2001), 'A Synthesis Report on the Role of Communities in Resource Mobilization and Risk Sharing', Geneva, WG3, CMH, World Health Organization.

Purohit, B.C. (1995), 'Private voluntary health sector in India', *Asian Economic Review*, XXXVII, 297-311.

Putnam, R.D. (1993a), *Making Democracy Work: Civic Traditions in Modern Italy*, Princeton, New Jersey, Princeton University Press.

Putnam, R.D. (1993b), 'The Prosperous Community: Social Capital and Public Life', *The American Prospect*, 1993, Spring, 35-42.

Putnam, R.D. (1995), 'Bowling Alone: America's Declining Social Capital', *Journal of Democracy*, 6, 1, 65-78.

Quisumbing, A.R. and Maluccio, J.A. (1999), 'Intrahousehold Allocation and Gender Relations: New Empirical Evidence', Washington DC, The World Bank.

Ranson, M.K. and Bennett, S. (2002), 'Role of Central Governments in Furthering Social Goals Through Microinsurance Units', *in* Dror, D.M. and Preker, A.S. (eds.), *Social Reinsurance: A New Approach to Sustain Community Health Financing*, Washington, DC, The World Bank and the International Labour Office.

Ranson, M.K. and John, K.R. (2001), 'Quality of hysterectomy care in rural Gujarat: the role of community-based health insurance', *Health Policy and Planning*, 16, 4, 395-403.

Rao, N.B., Khan, M.E. and Prasad, C.V.S. (1993), 'The planning process and Government health expenditure patterns in India in the early 1980s', *in* Berman, P. and Khan, M.E. (eds.), *Paying for India's Health Care*, London, Sage Publications.

Rao Seshadri, S. (2001), 'Constraints to scaling up health interventions: country case study, India', Geneva, Commission on Macroeconomics and Health.

Robinson, M. and White, G. (1997), 'The Role of Civic Organisations in the Provision of Social Services: Towards Synergy', *International Conference on 'Public Sector Management for the Next Century'*, Manchester.

Roemer, M. (1991), *National Health Systems of the World, Volume 1, The Countries*, Oxford, Oxford University Press.

Rosenzweig, M.R. (1988), 'Risk, implicit contracts and the family in rural areas of low-income countries', *The Economic Journal*, December, 1148-70.

Rosenzweig, M.R. (1990), 'Programme Interventions, Intra-household Allocation, and the Welfare of Individuals: Economic Models of the Household', *in* Lorge Rogers, B. and Schlossman, N.P. (eds.), *Intra-household Resource Allocation: Issues and Methods for Development Policy and Planning*, Tokyo, The United Nations University Press.

Rushing, W.A. (1986), *Social Functions and Economic Aspects of Health Insurance*, Boston, Kluwer-Nijhoff Publishing.

Sapolsky, H.M., Altman, D., Greene, R. and Moore, J.D. (1981), 'Corporate Attitudes toward Health Care Costs', *Milbank Memorial Fund Quarterly*, 59, No. 4, 561-85.

Satia, J.K. and Deodhar, N.S. (1993), 'Hospital Costs and Financing in Maharashtra', *in* Berman, P. and Khan, M.E. (eds.), *Paying for India's Health Care*, New Delhi, Sage Publications.

Schneider, P. and Diop, F. (2001), 'Synopsis of results on the impact of community-based health insurance (CBHI) on financial accessibility to health care in Rwanda', Washington, DC, The World Bank.

Schwartz, J.B., Akin, J.S. and Popkin, B.M. (1993), 'Economic determinants of demand for modern infant-delivery in low-income countries: the case of the Philippines', *in* Mills, A. and Lee, K. (eds.), *Health Economics Research in Developing Countries*, Oxford, Oxford University Press.

Schwartz, S. (1994), 'The Fallacy of the Ecological Fallacy: The Potential Misuse of a Concept and the Consequences', *American Journal of Public Health*, 84, 5, 819-24.

Self-Employed Women's Association (1999), 'Self-Employed Women's Association: Annual Report 1999', Ahmedabad, SEWA.

Self-Employed Women's Association (2001), 'Social Protection for Women: An Insurance Scheme for Workers in the Informal Economy', Ahmedabad, SEWA.

Sevagram Medico Friend Circle (1983), 'Health is not the villager's chief priority', *World Health Forum*, 4, 365-7.

Sharma, R. (2001), 'India proposes new health policy but admits flaws', *BMJ*, 323, 15 September, 592.

Shaw, P.R. and Ainsworth, M. (eds.) (1995), *Financing health services through user fees and insurance*, The World Bank, Washington, D.C.

Stinson, W. (1982), 'Community financing of primary health care', *Primary Health Care Issues*, 1, 4, 90 pages.

Sundar, R. (1995), 'Household Survey of Health Care Utilisation and Expenditure', New Delhi, National Council of Applied Economic Research.

Titmuss, R.M. (1997), *The gift relationship: from human blood to social policy* (First Edition), London, LSE Books.

Tribhuvandas Foundation (1999), 'Annual Report 1998-99', Anand, Gujarat, TF.

Uplekar, M. (1989a), 'Implication of prescribing patterns of private doctors in the treatment of Tuberculosis in Bombay, India', Boston, MA, Takemi Program in International Health.

Uplekar, M. (1989b), 'Private doctors and public health: the case of leprosy in Bombay, India', Boston, MA, Takemi Program in International Health
Harvard School of Public Health.

van Bastelaer, T. (1999), 'Does Social Capital Facilitate the Poor's Access to Credit?: A Review of the Microeconomic Literature', Washington DC, The World Bank.

van Ginneken, W. (1998), 'Overview', *in* van Ginneken, W. (ed.), *Social Security for All Indians*, Delhi, Oxford University Press.

Woolcock, M. (1998), 'Social capital and economic development: Toward a theoretical synthesis and policy framework', *Theory and Society*, 27, 151-208.

Working Group 3 of the Commission on Macroeconomics and Health (2001), 'Mobilisation of Domestic Resources for Health: Draft Report', Geneva, World Health Organization.

Working Group 5 of the Commission on Macroeconomics and Health (2001), 'Interventions, Constraints and Costs in Improving Health Outcomes of the Poor: Version 3', Geneva.

World Bank (1993). *World Development Report 1993: Investing in Health*. Washington. D.C., Oxford University Press.

World Bank (1995), 'India: Policy and finance strategies for strengthening primary health care services', Washington, D.C., The World Bank.

World Bank (1997), *Sector Strategy: Health Nutrition & Population*. Washington. D.C., The World Bank Group.

World Bank (1998), 'India: Reducing Poverty in India', Washington. D.C.. The World Bank.

World Bank (2001a), 'Social capital and the World Bank, Website, http://www.worldbank.org/poverty/scapital/bank1.htm, accessed on 13 October, 2001', The World Bank.

World Bank (2001b), 'What is civil society? Website, http://www.worldbank.org/poverty/scapital/sources/civil1.htm, accessed on 13 October, 2001'.

World Bank (2001c), *World Development Report 2000/2001: attacking poverty*. Oxford, Oxford University Press.

World Health Organization (1978), *Financing of health services*, Geneva, World Health Organization.

World Health Organization (1993), *Evaluation of recent changes in the financing of health services*, Geneva, World Health Organization.

World Health Organization (2000), *The World Health Report 2000: Health Systems: Improving Performance*, Geneva, WHO.

Wyatt, S. and Bhat, R. (1997), 'Options for improving the relationship between public, private and other healthcare providers in West Bengal', Calcutta, For Strategic Planning Cell, West Bengal health Sector Development Programme, Health and Family Welfare Department, Government of West Bengal.

Yarrow, G. (1993), 'Social Security and Friendly Societies: Options for the Future', *National Conference of Friendly Societies*, Oxford.

Yip, W. and Berman, P. (2001), 'Targeted health insurance in a low income country and its impact on access and equity in access: Egypt's school health insurance', *Health Economics*, 10, 207-20.

APPENDIX 1: GUJARATI HOUSEHOLD INTERVIEW QUESTIONNAIRE

13

ાકાત અંગેની પ્રશ્નાવલી

આણંદ - ખેડા જીલ્લાઓમાં આરોગ્ય સેવાની નાણાંકીય બાબતો અંગે એક અભ્યાસ

લંડન સ્કૂલ ઓફ હાઈજીન એન્ડ ટ્રોપીકલ મેડીસીન

કોમ્પ્યુટર કોડ

પ્રશ્નો ૧ થી ૫ તથા પ્રશ્નાવલીની જમણી બાજુ ઉપરના ખાનામાં માંગેલ માહિતી ઉત્તરદાતાનો સંપર્ક કરતા પહેલાં ભરવી

પ્ર-૧. સંશોધનકર્તાનું નામ : _____ ક્રમાંક: ☐☐

પ્ર-૨ ગામનું નામ : _____ ક્રમાંક: ☐☐

પ્ર-૩ કુટુંબનો ક્રમાંક : ☐☐

પ્ર-૪ કુટુંબનો પ્રકાર : ત્રિભુવનદાસ ફાઉન્ડેશન ૧

સેવા (ઓછામાં ઓછું એક સેવા સભ્ય) ૨

બિન સભ્ય ૩

પ્ર-૫ પ્રથમ મુલાકાત ૧

ફરીવારની મુલાકાત ૨

જુનિયર / સિનિયર સંશોધન કર્તા દ્વારા ફેર ચકાસણી. સહી : _____ તારીખ ☐☐/☐☐

મુખ્ય સંશોધનકર્તા દ્વારા ફેરચકાસણી _____ તારીખ ☐☐/☐☐

નમસ્તે બેન ! હું તમારા ગામમાં કુટુંબોનો એક અભ્યાસ કરી રહી છું. અમારા અભ્યાસ માટે તમારા કુટુંબની પસંદગી થઇ . આ અભ્યાસનો હેતુ, આણંદ અને ખેડા જિલ્લામાં આરોગ્ય સેવા મેળવવાની તથા આરોગ્ય સેવાની નાણાંકીય બાબતો વિષે ણવાનો છે. હું તમારા કુટુંબના સભ્યોને નડેલ માંદગીના પ્રસંગો વિષે અમુક પ્રશ્નો પૂછવા માંગુ છું.

ાપના જવાબોની લેખીત નોંધ કરવામાં આવશે, પણ આપના જવાબોને ખાનગી રાખવામાં આવશે. આ પ્રશ્નાવલી પૂરી થતા) મિનિટ થી ૪૫ મિનિટનો સમય લાગશે. એવી આશા છે કે આ અભ્યાસના તારણો આપને તથા આપના કુટુંબના અન્ય ભ્યોને લાભદાયક બનશે. આ અભ્યાસના પ્રાથમિક તારણો, આવતા વર્ષ સુધીમાં એક મીટીંગ દ્વારા આપ સુધી પહોંચાડવામાં ાવશે. આ અભ્યાસમાં આપનો સહભાગ ખૂબ પ્રશંસનીય છે.

ાબ મુલાકાતોની નોંધ :

દિવસ	મહીનો	સમય	વ્યક્તિગત મુલાકાત ?	જો ના, તો કેમ ?
☐☐	_____	_____	હા /ના	_____
☐☐	_____	_____	હા /ના	_____
☐☐	_____	_____	હા /ના	_____
☐☐	_____	_____	હા /ના	_____

૬ વ્યક્તિગત મુલાકાતની તારીખ : ☐☐/☐☐

૭ વ્યક્તિગત મુલાકાતના શરૂઆતનો સમય : ☐☐ : ☐☐ સવાર /બપોર / સાંજ

કુટુંબનુ સરનામું : _____ કોમ્પ્યુટર કોડ

કુટુંબના વડાનું નામ : _____ |_|

ઉત્તરદાતાનું નામ : _____ |_|

ઉત્તરદાતાની જાતિ :

સ્ત્રી ૧ પુરૂષ ૨

ઉત્તરદાતાનો કુટુંબના વડા સાથેનો સંબંધ :

કુટુંબના વડા	૦૧	સાસુ / સસરા	૦૭
પતિ /પત્નિ	૦૨	ભાઇ /બહેન	૦૮
પુત્ર /પુત્રી	૦૩	જેઠ . દિયર /ભાભી	૦૯
જમાઇ /વહુ	૦૪	ભાણો /ભત્રીજો /ભત્રીજી / ભાણી	૧૦
વાલી	૦૫	અન્ય લોહીનો સંબંધ	૧૧
		કોઇ સંબંધ નથી	૧૨

૦ ધર્મ :

હિન્દુ	૦૧	જૈન	૦૩
મુસ્લીમ	૦૨	ખ્રિસ્તી	૦૪
		અન્ય (જણાવો) _____	૯૯

૧ જ્ઞાતિ :

અનુસૂચિત જાતિ	૦૧	બક્ષીપંચ	૦૪
અનુસૂચિત જનજાતિ	૦૨	જનરલ	૦૫
અન્ય પછાત વર્ગ	૦૩	અન્ય (જણાવો) _____	૯૯

૨ છેલ્લાં ત્રીસ દિવસ દરમ્યાન તમારા રસોડામાં કેટલાં સભ્યોએ નિયમીત ભોજન લીધું છે ? (અમે તેઓને તમારા કુટુંબના સભ્યો ગણીશું છેલ્લા પચીસ દિવસ સુધી ભોજન કર્યું હોય તો તેનો પણ સમાવેશ કરવો.) |_|

૩ છેલ્લાં એક વર્ષ દરમ્યાન, જે તમારા કુટુંબમાં કોઇનું મૃત્યુ થયુ હોય, તો કેટલા સભ્યોનું ? |_|

(જેઓ મૃત્યુ પામ્યા હોય તેમનું નામ નીચેની સૂચીમાં ઉમરેવુ. તેઓ જે છેલ્લાં મહીના દરમ્યાન મૃત્યુ પામ્યા હોય તો તેમને થયેલ રોગ વિષે લખવું. અને જે તેઓ છેલ્લાં એક વર્ષ દરમ્યાન મૃત્યુ પામ્યા હોય તો તેઓના દવાખાનામાં દાખલ થવાની વિગત ભરવી)

જેઓ મૃત્યુ પામ્યા હોય તે સભ્ય માટે પ્રશ્ન ૧૮ ના ખાનામાં લખવું ''મૃત્યુ પામ્યા છે.''

કુટુંબના દરેક સભ્ય માટે નીચેની માહિતી ભરવી :

	નામ	પ્ર-૧૪ સંબંધ	પ્ર-૧૫ પુરુષ-૧ સ્ત્રી - ૨	પ્ર-૧૬ ઉંમર	પ્ર-૧૭ વૈવાહીક દરજ્જો	પ્ર-૧૮ શું તે વ્યક્તિ સાદો કાગળવાંચી લખી શકે છે ? હા = ૧ ના = ૨	પ્ર-૧૯ શિક્ષણ	પ્ર-૨૦ પ્રાથમિક વ્યવસાય
૧								
૨.								
૩.								
૪								
૫.								
૬								
૭.								
૮.								
૯								
૧૦.								
૧૧								
૧૨.								
૧૩.								
૧૪								
૧૫								

સૂચના :

પ્ર - ૧૪ વ્યક્તિનો કુટુંબના વડા સાથેનો સંબંધ

કુટુંબના વડા	૦૧	પૌત્ર /પૌત્રી	૦૫	જેઠ, દિયર / જેઠાણી, દેરાણી	૦૯
પતિ /પત્નિ	૦૨	વાલી	૦૬	ભાણો /ભત્રીજો /ભત્રીજી /ભાણી	૧૦
પુત્ર /પુત્રી	૦૩	સાસુ /સસરા	૦૭	અન્ય લોહીનો સંબંધ	૧૧
જમાઇ /વહુ	૦૪	ભાઇ /બહેન	૦૮	કોઇ સંબંધ નથી	૧૨

પ્ર -૧૬ છેલ્લી વર્ષગાંઠ વખતની ઉંમર. એક વર્ષથી નાની ઉંમરના બાળકો માટે ૦૦ લખવું. જો ઉત્તરદાતાને ખબર ના હોય તો તેમની અંદાજીત ઉંમર લખવી.

પ્ર-૧૭ વૈવાહીક દરજ્જો

પરિણીત	૧	વિધવા /વિધુર	૩	છૂટા થયેલ	૫
અપરિણીત	૨	છૂટછેડા લીધેલ	૪	અન્ય	૯

પ્ર.-૧૯ શિક્ષણ

બાલમંદિર	૦૦	અનુસ્નાતક અથવા તેથી વધુ ભણેલા	૧૪
૧ થી ૧૨ ધોરણ	૧ થી ૧૨	ટેકનીકલ ડીપ્લોમાં પાસ થયેલ	૧૫
સ્નાતક કક્ષા સુધી	૧૩	અશિક્ષિત	૧૬

પ્ર-૨૦ પ્રાથમિક વ્યવસાય

હાલમાં અભ્યાસ કરતા	૦૧	કુશળ કામદાર (ટર્નર, ફિટર, પ્લમ્બર, ઇલેક્ટ્રી , રોજી)	૦૮
ઘરકામ	૦૨	બિનકુશળ (લોકોને ત્યાં ઘરકામ, મહીને પગારદાર)	૦૯
પોતાની ખેતી (પશુપાલન સહીત)	૦૩	મીલીટરી અથવા પોલીસ	૧૦
સરકારી નોકરી	૦૪	અશક્ત (ઘરડા, બાળકો, માનસિક ક્ષતિવાળા)	૧૧
સ્વરોજગાર (ઘરમાં નાનો ધંધો, નાની દુકાન)	૦૫	ભીખ માંગવી	૧૨
તાલિમ લીધેલ વ્યવસાયી (ડો એન્જી શિક્ષક)	૦૬	બેરોજગાર	૧૩
બિનકુશળ ખેત મજુર / કારખાનાના કામદાર (રોજી)	૦૭	કુશળ કામદાર (મહીને પગારદાર, ખાનગી નોકરી)	૧૪
		સહકારી ક્ષેત્રમાં નોકરી (દા.ત. ડેરી)	૧૫
		કંઇ નથી કરતાં	૧૬
		ખબર નથી	૯૯

પ્ર ૨૧ **સૂચના :** ''છેલ્લાં ત્રીસ દિવસ દરમ્યાન કોઇ માંદુ પડ્યુ હતું ?'' (આ પ્રશ્ન માટે કોઇપણ માંદગી વિષે વિગતો ભરવી તથા સગર્ભાવસ્થા અને પ્રસુતિ પણ ઉમેરવા. એક મહિના દરમ્યાન દાખલ થયા હોય તેનો સમાવેશ કરવો. આ માંદગીઓ માટે સારવાર ન લીધી હોય તો પણ વિગતો લખવી) હા - ૧

ના - ૨

પ્ર ૨૨ ''છેલ્લાં એક વર્ષ દરમ્યાન શું કોઇ દવાખાનામાં દાખલ થયુ હતું ?
(છેલ્લાં એક મહીના દરમ્યાન દાખલ થયા હોય તો તેનો સમાવેશ કરવો નહીં.)''

હા - ૧

ના - ૨

પ્ર ૨૩,૨૪ છેલ્લે કુટુંબના કોઇ સભ્યો એવી કોઇ યોજનામાં જોડાય છે. કે જેમાં અગાઉથી અમુક નક્કી રકમ (અથવા સભ્ય ફી) ભરવાની હોય અને તેના બદલામાં દવાઓ ઓપરેશન અથવા દવાખાનામાં દાખલ થયાનો પૂરેપૂરો અથવા અમુક ખર્ચો આપવામાં આવતો હોય ?

ક્રમ	પ્ર-૨૧ છેલ્લાં ત્રીસ દિવસ દરમ્યાન માંદગી ?	પ્ર-૨૨ દવાખાનામાં દાખલ (દવાખાનામાં છેલ્લા એક વર્ષ દરમ્યાન રાત્રી રોકાણ)	પ્ર-૨૩ સેવામાં સભ્ય રૂા. ૫ ભર્યા છે ? (વિમાનો સમાવેશ આમાં નથી) હા = ૧ ના = ૨	પ્ર-૨૪ અગાઉથી ચૂકવણી થતી હોય તેવી યોજનાઓ (આરોગ્ય વિમો)
૧	⌊⌋⌊⌋⌊⌋	⌊⌋⌊⌋⌊⌋	⌊⌋	⌊⌋
૨	⌊⌋⌊⌋⌊⌋	⌊⌋⌊⌋⌊⌋	⌊⌋	⌊⌋
૩	⌊⌋⌊⌋⌊⌋	⌊⌋⌊⌋⌊⌋	⌊⌋	⌊⌋
૪	⌊⌋⌊⌋⌊⌋	⌊⌋⌊⌋⌊⌋	⌊⌋	⌊⌋
૫	⌊⌋⌊⌋⌊⌋	⌊⌋⌊⌋⌊⌋	⌊⌋	⌊⌋
૬	⌊⌋⌊⌋⌊⌋	⌊⌋⌊⌋⌊⌋	⌊⌋	⌊⌋
૭	⌊⌋⌊⌋⌊⌋	⌊⌋⌊⌋⌊⌋	⌊⌋	⌊⌋
૮	⌊⌋⌊⌋⌊⌋	⌊⌋⌊⌋⌊⌋	⌊⌋	⌊⌋
૯	⌊⌋⌊⌋⌊⌋	⌊⌋⌊⌋⌊⌋	⌊⌋	⌊⌋
૧૦	⌊⌋⌊⌋⌊⌋	⌊⌋⌊⌋⌊⌋	⌊⌋	⌊⌋
૧૧	⌊⌋⌊⌋⌊⌋	⌊⌋⌊⌋⌊⌋	⌊⌋	⌊⌋
૧૨	⌊⌋⌊⌋⌊⌋	⌊⌋⌊⌋⌊⌋	⌊⌋	⌊⌋
૧૩	⌊⌋⌊⌋⌊⌋	⌊⌋⌊⌋⌊⌋	⌊⌋	⌊⌋
૧૪	⌊⌋⌊⌋⌊⌋	⌊⌋⌊⌋⌊⌋	⌊⌋	⌊⌋
૧૫	⌊⌋⌊⌋⌊⌋	⌊⌋⌊⌋⌊⌋	⌊⌋	⌊⌋

સૂચનાઓ : પ્ર - ૨૧ અને પ્ર -૨૨

જનરલ :	તાવ, તાઢિયો તાવ	૦૧	**મુત્રાશય તથા**	પેશાબની તકલીફ , કીડનીની તકલીફ	૦૬
ચેતાતંત્ર :	માથાનો દુ:ખાવો, ચક્કર	૦૨	**પ્રજનન તંત્ર :**	જાતીય રોગ, ગર્ભાશયનું કેન્સર	
ઇન્દ્રીયો :	કાનની તકલીફ, સાંભળવાની તકલીફ, આંખો, ચામડીના રોગ	૦૩	**હાડકાને લગતા :**	સાંધાનો તકલીફ, ફ્રેકચર	૦૭
શ્વાસોશ્વાસ :	શરદી , ઉધરસ, શ્વાસની તકલીફ	૦૪	**ઇજા :**	કંઇ વાગ્યુ હોય, અન્ય ઘા	૦૮
એનીમીયા (અશક્તિ), ટી.બી.ફ્રેફસા -ગળાનું કેન્સર			**સગર્ભાવસ્થા, પ્રસુતિ, કુટુંબ નિયોજનનું ઓપરેશન**		૦૯
પાંચનતંત્ર : પેટની તકલીફ, ઝાડા -ઉલ્ટી, આંતરડાનું કેન્સર		૦૫	**હૃદયને લગતી :**	હૃદયની તકલીફ, બ્લડપ્રેશર,	૧૦
			અન્ય જણાવો		૯૯

પ્ર - ૨૪ આરોગ્ય વિમો :

ત્રિભુવનદાસ	૧	ઇ. એસ. આઇ. એસ.	૫
સેવા આજીવન ફી /ફીક્સ ડીપોઝીટ	૨	શેઠ /માલીક પાસેથી ખર્ચ મળે	૬
સેવા વાર્ષિક પ્રિમીયમ	૩	વિમો નથી	૭
મેડીક્લેમ /જન આરોગ્ય વિમો	૪	અન્ય (જણાવો)	૯

નોંધ : દરેક માંદગીના પ્રસંગે કે જેના માટે સારવાર લીધેલ હોય તો, તેના માટે નીચે પૂછેલ પ્રશ્નો માટે માહિતી ભરવી
બે એકથી વધુ જગ્યાએથી સારવાર લીધેલ હોય તો બીજા અને ત્રીજા ખાનાઓમાં માહિતી લખવી.

સૂચના : છેલ્લાં 30 દિવસ દરમ્યાન ઉભા થયેલ માંદગીના દરેક પ્રસંગ માટે નીચેના પ્રશ્નો પૂછવા (પ્ર - ૨૫ થી ૪૫)

છેલ્લાં 30 દિવસ દરમ્યાન માંદી પડેલ વ્યક્તિ નો ક્રમાંક લખવો : __|__|__

માંદગીનો ક્રમાંક : __|__|

પ્ર ૨૫ આ માંદગી માટે કોઇ ઘરગથ્થું ઉપચાર કર્યો હતો અથવા અન્ય સારવાર લીધી હતી ?

હા ૧

ના ૨

ખબર નહીં ૯

પ્ર-૨૬ આ માંદગી માટે શું તમે ફક્ત ઘરગથ્થુ ઉપચાર જ કર્યો હતો ?

હા - ૧

ના - ૨ → પ્ર-૨૭ પૂછવો

પ્ર-૨૭ કયો ઘરગથ્થુ ઉપચાર કર્યો હતો ? _____

આ માટે તમારે કેટલો ખર્ચ કરવો પડ્યો હતો ? __|__|__|રૂ.

પ્ર-૨૮ તમે ઘરગથ્થુ ઉપચાર સિવાય અન્ય સારવાર કેમ ન લીધી ?

બહુ ગંભીર નહોતી	૦૧	દાક્તર/તબીબ પાસે જવાનું ગમતુ નથી	૦૫
માંદા પડ્યા બાદ તરત સારું થઇ ગયું હતું	૦૨	દાક્તર /તબીબની સારવાર અસરકારક નથી	૦૬
બહુ દૂર છે /વાહન ઉપલબ્ધ નથી	૦૩	સારવાર અસરકારક નથી.	
બહુ ખર્ચો થાય /પૂરતા પૈસા નહોતા	૦૪	જાતે દવા કરતા આવડે છે.	૦૭
		અન્ય (જણાવો)	૦૮
		ખબર નહીં	૯૯

	પ્રથમ સારવાર	બીજી સારવાર	ત્રીજી સારવાર
પ્ર-૨૯ બિમારી થયાને (અથવા આ પહેલાની સારવાર) અને પગલાં લીધા વચ્ચેના દિવસો	__|__ દિવસો	__|__ દિવસો	__|__ દિવસો
પ્ર-૩૦ લીધેલ પગલાં (ખાનગી ડો. હોય તો ડીગ્રી ધરાવે છે ?)	__|	__|	__|

સૂચના : લીધેલ પગલાં

ઘરગથ્થુ ઉપચાર	૦૧	પરંપરાગત દાક્તર	
સેવા આરોગ્ય કાર્યકર	૦૨	(દા. ત. આયુર્વેદ, હાડવૈદ્ય, ભુવા)	૦૯
ત્રીભુવનદાસના આરોગ્ય કાર્યકર	૦૩	ડીગ્રી ન ધરાવનાર	૧૦
અન્ય આરોગ્ય કાર્યકર	૦૪	સરકારી (હોસ્પિટલ)	૧૧
સરકારી (નાનું દવાખાનું)	૦૫	ખાનગી (હોસ્પિટલ)	૧૨
ખાનગી (નાનું દવાખાનું)	૦૬	ટ્રસ્ટ હોસ્પિટલ (શ્રી કૃષ્ણ હોસ્પિટલ)	૧૩
સમાજ સેવા કરતુ (ટી.એચ મીશનરીનું નાનું દવાખાનું	૦૭	ઇ.એસ આઇ.એસ હોસ્પિટલ	૧૪
ઇ એસ. આઇ. એસ (નાનું દવાખાનું)	૦૮	કંપાઉન્ડર	૧૫
		અન્ય જણાવો	૯૯

પ્ર ૩૧ આ સારવાર લેવાનું તમને કોણે સૂચવ્યું હતું ? __| __| __|

સૂચના : માંદી પડેલ વ્યક્તિએ નક્કી કર્યું હતું.	૦૧	કુટુંબના અન્ય સભ્યો	૦૪
કુટુંબના વડાએ નક્કી કર્યું હતું	૦૨	આરોગ્ય કાર્યકરે અથવા તબીબે નક્કી કર્યું હતું.	૦૫
માંદી પડેલ વ્યક્તિની સાથે કુટુંબના		અન્ય જણાવો	૮
અન્ય સભ્યોએ નક્કી કર્યું હતું.	૦૩	ખબર નહીં	૯૯

પ્ર-૩૨ સારવારનો સમયગાળો (દિવસો) __|__ દિવસો __|__ દિવસો __|__ દિવસો

પ્ર-૩૩	સારવારનું પરિણામ	_|	_|	_|

સૂચના સારવારનું પરિણામ

સારું થઇ ગયું	૧	એવું ને એવું જ રહ્યું	૪
થોડું સારુ થયું	૨	હજી સારવાર ચાલુ છે	૫
વધી ગયુ	૩	ખબર નહીં	૬

પ્ર-૩૪	તબીબની ફી (તબીબ દ્વારા અપાયેલ દવાઓ, કરાયેલ ટેસ્ટ)	_|_|_|_| રૂ.	_|_|_|_| રૂ.	_|_|_|_| રૂ.
પ્ર-૩૫	દવાઓનો ખર્ચ	_|_|_|_| રૂ.	_|_|_|_| રૂ.	_|_|_|_| રૂ.
પ્ર-૩૬	ટેસ્ટ	_|_|_|_| રૂ.	_|_|_|_| રૂ.	_|_|_|_| રૂ.
પ્ર-૩૭	આવવા - જવાનો વાહન ખર્ચ /ભાડું	_|_|_|_| રૂ.	_|_|_|_| રૂ.	_|_|_|_| રૂ.
પ્ર-૩૮	અન્ય ખર્ચા	_|_|_|_| રૂ.	_|_|_|_| રૂ.	_|_|_|_| રૂ.
	(દાખલા આપી પૂછવું લાંચ, અથવા ખુશીના)	_|_|_|_| રૂ.	_|_|_|_| રૂ.	_|_|_|_| રૂ.
પ્ર-૩૯	કુલ ખર્ચો (પ્ર-૩૪ થી પ્ર-૩૮ નો સરવાળો)	_|_|_|_| રૂ.	_|_|_|_| રૂ.	_|_|_|_| રૂ.

પ્ર-૪૦ આ ખર્ચો પૂરો પાડવા માટે તમને કોઇ યોજનામાંથી પૈસા મળ્યા હતા કે જેમાં અગાઉથી રકમ ભરીને સભ્ય બની શકાંય ?

હા = ૧

ના = ૨, પ્ર - ૪૨ પૂછવો

પ્ર-૪૧	કેટલાં રુપીનો ખર્ચ મળ્યો હતો.	_|_|_|_| રૂ.	_|_|_|_| રૂ	_|_|_|_| રૂ.
પ્ર-૪૨	શું ઘરમાં પૂરતાં પૈસા હતા / બચત હતી ? હા = ૧ ના = ૨.→ પ્ર - ૪૩ પૂછવો	_|	_|	_|
પ્ર-૪૩	પૈસાની સગવડ કેવી રીતે હતી ?	_|_|	_|_|	_|_|

સૂચના પૈસાની સગવડ કેવી રીતે કરી હતી :

સોના - ચાંદીના ઘરેણાં વેચીને	૦૧	અનાજ /પાણી ઓછા લાવ્યા	૧૧
વાસણ વેચીને	૦૨	મોજ શોખનો ખર્ચ ઘટાડ્યો	૧૨
અનાજ વેચીને	૦૩	પગારમાંથી કપાવ્યા	૧૩
ખેતીના ઓજારો વેચીને	૦૪	વિશ્વાસના આધારે - સારવાર પૂરી થયા બાદ ભરીશું	૧૪
નાણાં ધીરનાર પાસે ઉધાર લઇને	૦૫	ધંધાનું ભંડોળ વાપર્યું	૧૫
બેંકમાંથી ઉધાર લઇને	૦૬	પૈસા સિવાયની વસ્તુથી ભરપાઇ કર્યા	૧૬
શેઠ પાસેથી ઉધાર લઇને	૦૭	ખેતર /મિલકત ગીરો મૂકીને	૧૭
મિત્રો સંબંધી પાસેથી ઉધાર લઇને	૦૮	વધારે મહેનત કરીને	૧૮
ભીખ માંગીને / ભેટ મળી	૦૯	યાદ નથી	૧૯
પશુ વેચીને	૧૦	અન્ય (જણાવો)	૯૯

પ્ર-૪૪ માંદગી પ્રસંગ વખતે દર્દીએ ગુમાવેલ વેતન /રોજ _\|_\|_\|_\| રૂ.

પ્ર-૪૫ માંદગી પ્રસંગ વખતે દર્દીની સેવા કરનાર વ્યક્તિએ ગુમાવેલ વેતન /રોજ : _\|_\|_\|_\| રૂ.

નોંધ : દરેક માંદગીના પ્રસંગે કે જેના માટે સારવાર લીધેલ હોય તો, તેના માટે નીચે પૂછેલ પ્રશ્નો માટે માહિતી ભરવી.
બે એકથી વધુ જગ્યાએથી સારવાર લીધેલ હોય તો બીજા અને ત્રીજા ખાનાઓમાં માહિતી લખવી.

સૂચના : છેલ્લાં 30 દિવસ દરમ્યાન ઉભા થયેલ માંદગીના દરેક પ્રસંગ માટે નીચેના પ્રશ્નો પૂછવા (પ્ર - ૨૫ થી ૪૫)

છેલ્લાં 30 દિવસ દરમ્યાન માંદી પડેલ વ્યક્તિ નો ક્રમાંક લખવો : |_|_| |_|_|

માંદગીનો ક્રમાંક : |_|_| |_|_|

પ્ર. ૨૫ આ માંદગી માટે કોઇ ઘરગથ્થું ઉપચાર કર્યો હતો અથવા અન્ય સારવાર લીધી હતી ? |_|

હા ૧

ના ૨

ખબર નહીં ૯

પ્ર-૨૬ આ માંદગી માટે શું તમે ફક્ત ઘરગથ્થુ ઉપચાર જ કર્યો હતો ?

હા - ૧

ના - ૨ → પ્ર-૨૭ પૂછવો

પ્ર-૨૭ કયો ઘરગથ્થુ ઉપચાર કર્યો હતો ? _____

આ માટે તમારે કેટલો ખર્ચ કરવો પડ્યો હતો ? |_|_|_| રૂા.

પ્ર-૨૮ તમે ઘરગથ્થુ ઉપચાર સિવાય અન્ય સારવાર કેમ ન લીધી ?

બહુ ગંભીર નહોતી	૦૧	દાક્તર/તબીબ પાસે જવાનું ગમતુ નથી	૦૫
માંદા પડ્યા બાદ તરત સારું થઇ ગયું હતું	૦૨	દાક્તર /તબીબની સારવાર અસરકારક નથી	૦૬
બહુ દૂર છે /વાહન ઉપલબ્ધ નથી	૦૩	સારવાર અસરકારક નથી.	
બહુ ખર્ચો થાય /પૂરતા પૈસા નહોતા	૦૪	જાતે દવા કરતા આવડે છે.	૦૭
		અન્ય (જણાવો)	૦૮
		ખબર નહીં	૯૯

		પ્રથમ સારવાર	બીજી સારવાર	ત્રીજી સારવાર
પ્ર-૨૯	બિમારી થયાને (અથવા આ પહેલાની સારવાર) અને પગલાં લીધા વચ્ચેના દિવસો	|_|_| દિવસો	|_|_| દિવસો	|_|_| દિવસો
પ્ર-૩૦	લીધેલ પગલાં (ખાનગી ડો. હોય તો ડીગ્રી ધરાવે છે ?)	|_|	|_|	|_|

સૂચના : લીધેલ પગલાં

ઘરગથ્થુ ઉપચાર	૦૧	પરંપરાગત દાક્તર	
સેવા આરોગ્ય કાર્યકર	૦૨	(દા. ત. આયુર્વેદ, હાડવૈદ્ય, ભુવા)	૦૯
ત્રીભુવનદાસના આરોગ્ય કાર્યકર	૦૩	ડીગ્રી ન ધરાવનાર	૧૦
અન્ય આરોગ્ય કાર્યકર	૦૪	સરકારી (હોસ્પિટલ)	૧૧
સરકારી (નાનું દવાખાનું)	૦૫	ખાનગી (હોસ્પિટલ)	૧૨
ખાનગી (નાનું દવાખાનું)	૦૬	ટ્રસ્ટ હોસ્પિટલ (શ્રી કૃષ્ણ હોસ્પિટલ)	૧૩
સમાજ સેવા કરતુ (ટી.એફ્ર મીશનરીનું નાનું દવાખાનું	૦૭	ઇ.એસ.આઇ.એસ. હોસ્પિટલ	૧૪
ઇ. એસ. આઇ. એસ (નાનું દવાખાનું)	૦૮	કંપાઉન્ડર	૧૫
		અન્ય જણાવો	૯૯

પ્ર. ૩૧ આ સારવાર લેવાનું તમને કોણે સૂચવ્યું હતું ? |_| |_| |_|

સૂચના : માંદી પડેલ વ્યક્તિએ નક્કી કર્યું હતું.	૦૧	કુટુંબના અન્ય સભ્યો	૦૪
કુટુંબના વડાએ નક્કી કર્યું હતું	૦૨	આરોગ્ય કાર્યકરે અથવા તબીબે નક્કી કર્યું હતું	૦૫
માંદી પડેલ વ્યક્તિની સાથે કુટુંબના		અન્ય જણાવો	૮
અન્ય સંભ્યોએ નક્કી કર્યું હતું.	૦૩	ખબર નહીં	૯૯

પ્ર-૩૨ સારવારનો સમયગાળો (દિવસો) |_|_| દિવસો |_|_| દિવસો |_|_| દિવસો

પ્ર-૩૩ સારવારનું પરિણામ ___ ___ ___

સૂચના સારવારનું પરિણામ

સારું થઇ ગયું	૧	એવું ને એવું જ રહ્યું	૪
થોડું સારુ થયું	૨	હજી સારવાર ચાલુ છે	૫
વધી ગયુ	૩	ખબર નહીં	૬

પ્ર-૩૪ તબીબની ફી ___ ___ ___ રૂ. ___ ___ ___ રૂ. ___ ___ ___ રૂ.
(તબીબ દ્વારા અપાયેલ દવાઓ, કરાયેલ ટેસ્ટ)

પ્ર-૩૫ દવાઓનો ખર્ચ ___ ___ ___ રૂ. ___ ___ ___ રૂ. ___ ___ ___ રૂ.

પ્ર-૩૬ ટેસ્ટ ___ ___ ___ રૂ. ___ ___ ___ રૂ. ___ ___ ___ રૂ.

પ્ર-૩૭ આવવા - જવાનો વાહન ખર્ચ /ભાડું ___ ___ ___ રૂ. ___ ___ ___ રૂ. ___ ___ ___ રૂ.

પ્ર-૩૮ અન્ય ખર્ચા : ___ ___ ___ રૂ. ___ ___ ___ રૂ. ___ ___ ___ રૂ.

(દાખલા આપી પૂછવું લાંચ, અથવા ખુશીના) ___ ___ ___ રૂ. ___ ___ ___ રૂ. ___ ___ ___ રૂ.

પ્ર-૩૯ કુલ ખર્ચો (પ્ર-૩૪ થી પ્ર-૩૮ નો સરવાળો) ___ ___ ___ રૂ. ___ ___ ___ રૂ. ___ ___ ___ રૂ.

પ્ર-૪૦ આ ખર્ચો પૂરો પાડવા માટે તમને કોઇ યોજનામાંથી પૈસા મળ્યા હતા કે જેમાં અગાઉથી રકમ ભરીને સભ્ય બની શકાય ?

હા = ૧

ના = ૨, પ્ર - ૪૨ પૂછવો

પ્ર-૪૧ કેટલાં ચુંઘીનો ખર્ચ મળ્યો હતો. ___ ___ ___ રૂ. ___ ___ ___ રૂ. ___ ___ ___ રૂ.

પ્ર-૪૨ શું ઘરમાં પૂરતા પૈસા હતા / ___ ___ ___
બચત હતી ?

હા = ૧

ના = ૨,→ પ્ર - ૪૩ પૂછવો

પ્ર-૪૩ પૈસાની સગવડ કેવી રીતે હતી ? ___ ___ ___

સૂચના પૈસાની સગવડ કેવી રીતે કરી હતી :

સોના - ચાંદીના ઘરેણાં વેચીને	૦૧	અનાજ /પાણી ઓછા લાવ્યા	૧૧
વાસણ વેચીને	૦૨	મોજ શોખનો ખર્ચ ઘટાડ્યો	૧૨
અનાજ વેચીને	૦૩	પગારમાંથી કપાવ્યા	૧૩
ખેતીનાં ઓજારો વેંચીને	૦૪	વિશ્વાસના આધારે - સારવાર પૂરી થયા બાદ ભરીશું	૧૪
નાણાં ધીરનાર પાસે ઉધાર લઇને	૦૫	ધંધાનું ભંડોળ વાપર્યું	૧૫
બેંકમાંથી ઉધાર લઇને	૦૬	પૈસા સિવાયની વસ્તુથી ભરપાઇ કર્યા	૧૬
શેઠ પાસેથી ઉધાર લઇને	૦૭	ખેતર /મિલકત ગીરો મૂકીને	૧૭
મિત્રો સંબંધી પાસેથી ઉધાર લઇને	૦૮	વધારે મહેનત કરીને	૧૮
ભીખ માંગીને / ભેટ મળી	૦૯	યાદ નથી	૧૯
પશુ વેચીને	૧૦	અન્ય (જણાવો)	૯૯

પ્ર-૪૪ માંદગી પ્રસંગ વખતે દર્દીએ ગુમાવેલ વેતન /રોજ ___ ___ ___ રૂ.

પ્ર-૪૫ માંદગી પ્રસંગ વખતે દર્દીની સેવા કરનાર વ્યક્તિએ ગુમાવેલ વેતન /રોજ : ___ ___ ___ રૂ.

નોંધ : દરેક માંદગીના પ્રસંગે કે જેના માટે સારવાર લીધેલ હોય તો, તેના માટે નીચે પૂછેલ પ્રશ્નો માટે માહિતી ભરવી
બે એકથી વધુ જગ્યાએથી સારવાર લીધેલ હોય તો બીજા અને ત્રીજા ખાનાઓમાં માહિતી લખવી

સૂચના : છેલ્લાં 30 દિવસ દરમ્યાન ઉભા થયેલ માંદગીના દરેક પ્રસંગ માટે નીચેના પ્રશ્નો પૂછવા (પ્ર - ૨૫ થી ૪૫)

છેલ્લાં 30 દિવસ દરમ્યાન માંદી પડેલ વ્યક્તિ નો ક્રમાંક લખવો : __|__|

માંદગીનો ક્રમાંક : __|__|

પ્ર. ૨૫ આ માંદગી માટે કોઇ ઘરગથ્થું ઉપચાર કર્યો હતો અથવા અન્ય સારવાર લીધી હતી ?

હા	૧
ના	૨
ખબર નહીં	૯

પ્ર-૨૬ આ માંદગી માટે શું તમે ફક્ત ઘરગથ્થુ ઉપચાર જ કર્યો હતો ?

હા -	૧
ના -	૨ → પ્ર-૨૭ પૂછવો

પ્ર-૨૭ કયો ઘરગથ્થુ ઉપચાર કર્યો હતો ? _____

આ માટે તમારે કેટલો ખર્ચ કરવો પડ્યો હતો ? __|__|__| રૂા.

પ્ર-૨૮ તમે ઘરગથ્થુ ઉપચાર સિવાય અન્ય સારવાર કેમ ન લીધી ?

બહુ ગંભીર નહોતી	૦૧	દાકતર/તબીબ પાસે જવાનું ગમતુ નથી	૦૫
માંદા પડ્યા બાદ તરત સારું થઇ ગયું હતું	૦૨	દાકતર /તબીબની સારવાર અસરકારક નથી	૦૬
બહુ દૂર છે /વાહન ઉપલબ્ધ નથી	૦૩	સારવાર અસરકારક નથી.	
બહુ ખર્ચો થાય /પૂરતા પૈસા નહોતા	૦૪	જાતે દવા કરતા આવડે છે.	૦૭
		અન્ય (જણાવો)	૦૮
		ખબર નહીં	૯૯

		પ્રથમ સારવાર	બીજી સારવાર	ત્રીજી સારવાર
પ્ર-૨૯	બિમારી થયાને (અથવા આ પહેલાની સારવાર) અને પગલાં લીધા વચ્ચેના દિવસો	__|__ દિવસો	__|__ દિવસો	__|__ દિવસો
પ્ર-૩૦	લીધેલ પગલાં (ખાનગી ડો. હોય તો ડીગ્રી ધરાવે છે ?)	__|	__|	__|

સૂચના : લીધેલ પગલાં

ઘરગથ્થુ ઉપચાર	૦૧	પરંપરાગત દાક્તર	
સેવા આરોગ્ય કાર્યકર	૦૨	(દા. ત. આયુર્વેદ, હાડવૈદ્ય, ભુવા)	૦૯
ત્રીભુવનદાસના આરોગ્ય કાર્યકર	૦૩	ડીગ્રી ન ધરાવનાર	૧૦
અન્ય આરોગ્ય કાર્યકર	૦૪	સરકારી (હોસ્પિટલ)	૧૧
સરકારી (નાનું દવાખાનું)	૦૫	ખાનગી (હોસ્પિટલ)	૧૨
ખાનગી (નાનું દવાખાનું)	૦૬	ટ્રસ્ટ હોસ્પિટલ (શ્રી કૃષ્ણ હોસ્પિટલ)	૧૩
સમાજ સેવા કરતુ (ટી.એફ્ર મીશનરીનું નાનું દવાખાનું	૦૭	ઇ.એસ.આઇ.એસ. હોસ્પિટલ	૧૪
ઇ. એસ. આઇ. એસ (નાનું દવાખાનું)	૦૮	કંપાઉન્ડર	૧૫
		અન્ય જણાવો	૯૯

પ્ર. ૩૧ આ સારવાર લેવાનું તમને કોણે સૂચવ્યું હતું ? __| __| __|

સૂચના :

માંદી પડેલ વ્યક્તિએ નક્કી કર્યું હતું.	૦૧	કુટુંબના અન્ય સભ્યો	૦૪
કુટુંબના વડાએ નક્કી કર્યું હતું	૦૨	આરોગ્ય કાર્યકરે અથવા તબીબે નક્કી કર્યું હતું.	૦૫
માંદી પડેલ વ્યક્તિની સાથે કુટુંબના		અન્ય જણાવો	૮
અન્ય સભ્યોએ નક્કી કર્યું હતું.	૦૩	ખબર નહીં	૯૯

પ્ર-૩૨ સારવારનો સમયગાળો (દિવસો) __|__ દિવસો __|__ દિવસો __|__ દિવસો

નોંધ : દરેક માંદગીના પ્રસંગે કે જેના માટે સારવાર લીધેલ હોય તો, તેના માટે નીચે પૂછેલ પ્રશ્નો માટે માહિતી ભરવી
બે એકથી વધુ જગ્યાએથી સારવાર લીધેલ હોય તો બીજા અને ત્રીજા ખાનાઓમાં માહિતી લખવી

સૂચના : છેલ્લાં 30 દિવસ દરમ્યાન ઉભા થયેલ માંદગીના દરેક પ્રસંગ માટે નીચેના પ્રશ્નો પૂછવા (પ્ર - ૨૫ થી ૪૫)

છેલ્લાં 30 દિવસ દરમ્યાન માંદી પડેલ વ્યક્તિ નો ક્રમાંક લખવો : __|__|

માંદગીનો ક્રમાંક : __|__|

પ્ર. ૨૫ આ માંદગી માટે કોઇ ઘરગથ્થું ઉપચાર કર્યો હતો અથવા અન્ય સારવાર લીધી હતી ?

હા	૧
ના	૨
ખબર નહીં	૯

પ્ર-૨૬ આ માંદગી માટે શું તમે ફક્ત ઘરગથ્થુ ઉપચાર જ કર્યો હતો ?

હા -	૧
ના -	૨ → પ્ર-૨૭ પૂછવો

પ્ર-૨૭ કયો ઘરગથ્થુ ઉપચાર કર્યો હતો ? _____

આ માટે તમારે કેટલો ખર્ચ કરવો પડ્યો હતો ? __|__|__| રૂ.

પ્ર-૨૮ તમે ઘરગથ્થુ ઉપચાર સિવાયે અન્ય સારવાર કેમ ન લીધી ?

બહુ ગંભીર નહોતી	૦૧	દાક્તર/તબીબ પાસે જવાનું ગમતુ નથી	૦૫
માંદા પડ્યા બાદ તરત સારું થઇ ગયું હતું	૦૨	દાક્તર /તબીબની સારવાર અસરકારક નથી	૦૬
બહુ દૂર છે /વાહન ઉપલબ્ધ નથી	૦૩	સારવાર અસરકારક નથી	
બહુ ખર્ચો થાય /પૂરતા પૈસા નહોતા	૦૪	જાતે દવા કરતા આવડે છે	૦૭
		અન્ય (જણાવો)	૦૮
		ખબર નહીં	૯૯

	પ્રથમ સારવાર	બીજી સારવાર	ત્રીજી સારવાર
પ્ર-૨૯ બિમારી થયાને (અથવા આ પહેલાની સારવાર) અને પગલાં લીધા વચ્ચેના દિવસો	__|__ દિવસો	__|__ દિવસો	__|__ દિવસો
પ્ર-૩૦ લીધેલ પગલાં (ખાનગી ડો. હોય તો ડીગ્રી ધરાવે છે ?)	__|	__|	__|

સૂચના : લીધેલ પગલાં

ઘરગથ્થુ ઉપચાર	૦૧	પરંપરાગત દાક્તર	
સેવા આરોગ્ય કાર્યકર	૦૨	(દા. ત. આયુર્વેદ, હાડ વૈદ્ય, ભુવા)	૦૯
ત્રીભુવનદાસના આરોગ્ય કાર્યકર	૦૩	ડીગ્રી ન ધરાવનાર	૧૦
અન્ય આરોગ્ય કાર્યકર	૦૪	સરકારી (હોસ્પિટલ)	૧૧
સરકારી (નાનું દવાખાનું)	૦૫	ખાનગી (હોસ્પિટલ)	૧૨
ખાનગી (નાનું દવાખાનું)	૦૬	ટ્રસ્ટ હોસ્પિટલ (શ્રી કૃષ્ણ હોસ્પિટલ)	૧૩
સમાજ સેવા કરતુ (ટી.એફ મીશનરીનું નાનું દવાખાનું	૦૭	ઇ.એસ.આઇ.એસ હોસ્પિટલ	૧૪
ઇ. એસ. આઇ. એસ (નાનું દવાખાનું)	૦૮	કંપાઉન્ડર	૧૫
		અન્ય જણાવો	૯૯

પ્ર. ૩૧ આ સારવાર લેવાનું તમને કોણે સૂચવ્યું હતું ? __| __| __|

સૂચના : માંદી પડેલ વ્યક્તિએ નક્કી કર્યું હતું.	૦૧	કુટુંબના અન્ય સભ્યો	૦૪
કુટુંબના વડાએ નક્કી કર્યું હતું	૦૨	આરોગ્ય કાર્યકરે અથવા તબીબે નક્કી કર્યું હતું	૦૫
માંદી પડેલ વ્યક્તિની સાથે કુટુંબના		અન્ય જણાવો	૮
અન્ય સભ્યોએ નક્કી કર્યું હતું.	૦૩	ખબર નહીં	૯૯

પ્ર-૩૨ સારવારનો સમયગાળો (દિવસો) __|__ દિવસો __|__ દિવસો __|__ દિવસો

પ્ર-૩૩ સારવારનુ પરિણામ ___ ___ ___

સૂચના સારવારનું પરિણામ

સારું થઇ ગયું	૧	એવું ને એવું જ રહ્યું	૪
થોડું સારુ થયું	૨	હજી સારવાર ચાલુ છે	૫
વધી ગયુ	૩	ખબર નહીં	૯

પ્ર-૩૪ તબીબની ફ્રી (તબીબ દ્વારા અપાયેલ દવાઓ, કરાયેલ ટેસ્ટ) ___ રૂ. ___ રૂ. ___ રૂ.

પ્ર-૩૫ દવાઓનો ખર્ચ ___ રૂ. ___ રૂ. ___ રૂ.

પ્ર-૩૬ ટેસ્ટ ___ રૂ. ___ રૂ. ___ રૂ.

પ્ર-૩૭ આવવા - જવાનો વાહન ખર્ચ /ભાડું ___ રૂ. ___ રૂ. ___ રૂ.

પ્ર-૩૮ અન્ય ખર્ચા : ___ રૂ. ___ રૂ. ___ રૂ.

(દાખલા આપી પૂછવું લાંચ, અથવા ખુશીના) ___ રૂ. ___ રૂ. ___ રૂ.

પ્ર-૩૯ કુલ ખર્ચો (પ્ર-૩૪ થી પ્ર-૩૮ નો સરવાળો) ___ રૂ. ___ રૂ. ___ રૂ

પ્ર-૪૦ આ ખર્ચો પૂરો પાડવા માટે તમને કોઇ યોજનામાંથી પૈસા મળ્યા હતા કે જેમાં અગાઉથી રકમ ભરીને સભ્ય બની શકાય ?

હા = ૧

ના = ૨, પ્ર - ૪૨ પૂછવો

પ્ર-૪૧ કેટલાં સુધીનો ખર્ચ મળ્યો હતો. ___ રૂ. ___ રૂ. ___ રૂ.

પ્ર-૪૨ શું ઘરમાં પૂરતા પૈસા હતા / બચત હતી ? ___ ___ ___

હા = ૧

ના = ૨,→ પ્ર - ૪૩ પૂછવો

પ્ર-૪૩ પૈસાની સગવડ કેવી રીતે હતી ? ___ ___ ___

સૂચના પૈસાની સગવડ કેવી રીતે કરી હતી :

સોના - ચાંદીના ઘરેણાં વેચીને	૦૧	અનાજ /પાણી ઓછા લાવ્યા	૧૧
વાસણ વેચીને	૦૨	મોજ શોખનો ખર્ચ ઘટાડ્યો	૧૨
અનાજ વેચીને	૦૩	પગારમાંથી કપાવ્યા	૧૩
ખેતીના ઓજરો વેચીને	૦૪	વિશ્વાસના આધારે - સારવાર પૂરી થયા બાદ ભરીશું	૧૪
નાણાં ધીરનાર પાસે ઉધાર લઇને	૦૫	ધંધાનું ભંડોળ વાપર્યું	૧૫
બેંકમાંથી ઉધાર લઇને	૦૬	પૈસા સિવાયની વસ્તુથી ભરપાઇ કર્યા	૧૬
શેઠ પાસેથી ઉધાર લઇને	૦૭	ખેતર /મિલકત ગીરો મૂકીને	૧૭
મિત્રો સંબંધી પાસેથી ઉધાર લઇને	૦૮	વધારે મહેનત કરીને	૧૮
ભીખ માંગીને / ભેટ મળી	૦૯	યાદ નથી	૧૯
પશુ વેચીને	૧૦	અન્ય (જણાવો)	૯૯

પ્ર-૪૪ માંદગી પ્રસંગ વખતે દર્દીએ ગુમાવેલ વેતન /રોજ ___ રૂ.

પ્ર-૪૫ માંદગી પ્રસંગ વખતે દર્દીની સેવા કરનાર વ્યક્તિએ ગુમાવેલ વેતન /રોજ : ___ રૂ.

નોંધ : દરેક માંદગીના પ્રસંગે કે જેના માટે સારવાર લીધેલ હોય તો, તેના માટે નીચે પૂછેલ પ્રશ્નો માટે માહિતી ભરવી.
બે એકથી વધુ જગ્યાએથી સારવાર લીધેલ હોય તો બીજા અને ત્રીજા ખાનાઓમાં માહિતી લખવી.

સૂચના : છેલ્લાં 30 દિવસ દરમ્યાન ઉભા થયેલ માંદગીના દરેક પ્રસંગ માટે નીચેના પ્રશ્નો પૂછવા (પ્ર - ૨૫ થી ૪૫)

છેલ્લાં 30 દિવસ દરમ્યાન માંદી પડેલ વ્યક્તિ નો ક્રમાંક લખવો : __|__|

માંદગીનો ક્રમાંક : __|__|

પ્ર. ૨૫ આ માંદગી માટે કોઇ ઘરગથ્થું ઉપચાર કર્યો હતો અથવા અન્ય સારવાર લીધી હતી ?

હા	૧
ના	૨
ખબર નહીં	૯

પ્ર-૨૬ આ માંદગી માટે શું તમે ફક્ત ઘરગથ્થુ ઉપચાર જ કર્યો હતો ?

હા -	૧
ના -	૨ → પ્ર-૨૭ પૂછવો

પ્ર-૨૭ કયો ઘરગથ્થુ ઉપચાર કર્યો હતો ? _____

આ માટે તમારે કેટલો ખર્ચ કરવો પડ્યો હતો ? __|__|__| રૂા.

પ્ર-૨૮ તમે ઘરગથ્થુ ઉપચાર સિવાય અન્ય સારવાર કેમ ન લીધી ?

બહુ ગંભીર નહોતી	૦૧	દાક્તર/તબીબ પાસે જવાનું ગમતુ નથી	૦૫
માંદા પડ્યા બાદ તરત સારું થઇ ગયું હતું	૦૨	દાક્તર /તબીબની સારવાર અસરકારક નથી	૦૬
બહુ દૂર છે /વાહન ઉપલબ્ધ નથી	૦૩	સારવાર અસરકારક નથી.	
બહુ ખર્ચો થાય /પૂરતા પૈસા નહોતા	૦૪	જાતે દવા કરતા આવડે છે.	૦૭
		અન્ય (જણાવો)	૦૮
		ખબર નહીં	૯૯

	પ્રથમ સારવાર	બીજી સારવાર	ત્રીજી સારવાર
પ્ર-૨૯ બિમારી થયાને (અથવા આ પહેલાની સારવાર) અને પગલાં લીધા વચ્ચેના દિવસો	__|__ દિવસો	__|__ દિવસો	__|__ દિવસો
પ્ર-૩૦ લીધેલ પગલાં (ખાનગી ડો. હોય તો ડીગ્રી ધરાવે છે ?)	__|	__|	__|

સૂચના : લીધેલ પગલાં

ઘરગથ્થુ ઉપચાર	૦૧	પરંપરાગત દાક્તર	
સેવા આરોગ્ય કાર્યકર	૦૨	(દા. ત. આયુર્વેદ, ઠાડ વૈદ્ય, ભુવા)	૦૯
ત્રીભુવનદાસના આરોગ્ય કાર્યકર	૦૩	ડીગ્રી ન ધરાવનાર	૧૦
અન્ય આરોગ્ય કાર્યકર	૦૪	સરકારી (હોસ્પિટલ)	૧૧
સરકારી (નાનું દવાખાનું)	૦૫	ખાનગી (હોસ્પિટલ)	૧૨
ખાનગી (નાનું દવાખાનું)	૦૬	ટ્રસ્ટ હોસ્પિટલ (શ્રી કૃષ્ણ હોસ્પિટલ)	૧૩
સમાજ સેવા કરતુ (ટી.એફ્ર મીશનરીનું નાનું દવાખાનું	૦૭	ઇ.એસ.આઇ.એસ. હોસ્પિટલ	૧૪
ઇ. એસ. આઇ. એસ (નાનું દવાખાનું)	૦૮	કંપાઉન્ડર	૧૫
		અન્ય જણાવો	૯૯

પ્ર. ૩૧ આ સારવાર લેવાનું તમને કોણે સૂચવ્યું હતું ? __| __| __|

સૂચના : માંદી પડેલ વ્યક્તિએ નક્કી કર્યું હતું.	૦૧	કુટુંબના અન્ય સભ્યો	૦૪
કુટુંબના વડાએ નક્કી કર્યું હતું	૦૨	આરોગ્ય કાર્યકરે અથવા તબીબે નક્કી કર્યું હતું	૦૫
માંદી પડેલ વ્યક્તિની સાથે કુટુંબના		અન્ય જણાવો	૮
અન્ય સભ્યોએ નક્કી કર્યું હતું.	૦૩	ખબર નહીં	૯૯

પ્ર-૩૨ સારવારનો સમયગાળો (દિવસો) __|__ દિવ__| __|__ દિવસો __|__ દિવસો

પ્ર-૩૩ સારવારનું પરિણામ ___ ___ ___

સૂચના સારવારનું પરિણામ

સારું થઇ ગયું	૧	એવું ને એવું જ રહ્યું	૪
થોડું સારુ થયું	૨	હજી સારવાર ચાલુ છે	૫
વધી ગયુ	૩	ખબર નહીં	૬

પ્ર-૩૪ તબીબની ફી (તબીબ દ્વારા અપાયેલ દવાઓ, કરાયેલ ટેસ્ટ) ___ રૂ. ___ રૂ. ___ રૂ.

પ્ર-૩૫ દવાઓનો ખર્ચ ___ રૂ. ___ રૂ. ___ રૂ.

પ્ર-૩૬ ટેસ્ટ ___ રૂ. ___ રૂ. ___ રૂ.

પ્ર-૩૭ આવવા - જવાનો વાહન ખર્ચ /ભાડું ___ રૂ. ___ રૂ. ___ રૂ.

પ્ર-૩૮ અન્ય ખર્ચા : ___ રૂ. ___ રૂ. ___ રૂ.

(દાખલા આપી પૂછવું લાંચ, અથવા ખુશીના) ___ રૂ. ___ રૂ. ___ રૂ.

પ્ર-૩૯ કુલ ખર્ચો (પ્ર-૩૪ થી પ્ર-૩૮ નો સરવાળો) ___ રૂ. ___ રૂ. ___ રૂ.

પ્ર-૪૦ આ ખર્ચો પૂરો પાડવા માટે તમને કોઇ યોજનામાંથી પૈસા મળ્યા હતા કે જેમાં અગાઉથી રકમ ભરીને સભ્ય બની શકાય ?

હા = ૧

ના = ૨, પ્ર - ૪૨ પૂછવો

પ્ર-૪૧ કેટલાં સુધીનો ખર્ચ મળ્યો હતો. ___ રૂ. ___ રૂ. ___ રૂ.

પ્ર-૪૨ શું ઘરમાં પૂરતા પૈસા હતા / બચત હતી ? ___ ___ ___

હા = ૧

ના = ૨,→ પ્ર - ૪૩ પૂછવો

પ્ર-૪૩ પૈસાની સગવડ કેવી રીતે હતી ? ___ ___ ___

સૂચના પૈસાની સગવડ કેવી રીતે કરી હતી :

સોના - ચાંદીના ઘરેણાં વેચીને	૦૧	અનાજ /પાણી ઓછા લાવ્યા	૧૧
વાસણ વેચીને	૦૨	મોજ શોખનો ખર્ચ ઘટાડ્યો	૧૨
અનાજ વેચીને	૦૩	પગારમાંથી કપાવ્યા	૧૩
ખેતીના ઓજરો વેચીને	૦૪	વિશ્વાસના આધારે - સારવાર પૂરી થયા બાદ ભરીશું	૧૪
નાણાં ધીરનાર પાસે ઉધાર લઇને	૦૫	ધંધાનું ભંડોળ વાપર્યું	૧૫
બેંકમાંથી ઉધાર લઇને	૦૬	પૈસા સિવાયની વસ્તુથી ભરપાઇ કર્યા	૧૬
શેઠ પાસેથી ઉધાર લઇને	૦૭	ખેતર /મિલકત ગીરો મૂકીને	૧૭
મિત્રો સંબંધી પાસેથી ઉધાર લઇને	૦૮	વધારે મહેનત કરીને	૧૮
ભીખ માંગીને / ભેટ મળી	૦૯	યાદ નથી	૧૯
પશુ વેચીને	૧૦	અન્ય (જણાવો)	૯૯

પ્ર-૪૪ માંદગી પ્રસંગ વખતે દર્દીએ ગુમાવેલ વેતન /રોજ ___ રૂ.

પ્ર-૪૫ માંદગી પ્રસંગ વખતે દર્દીની સેવા કરનાર વ્યક્તિએ ગુમાવેલ વેતન /રોજ : ___ રૂ.

સૂચનાઓ : દવાખાનામાં દાખલ થવાના દરેક પ્રસંગ માટે પ્ર-૪૬ થી ૬૬ પૂછવા. દરેક કોલમ અલગ અલગ દાખલ થયાનો પ્રસંગ માટે છે. જો કોઇ વ્યક્તિ એક વર્ષ દરમ્યાન એકથી વધુ વખત દાખલ થયા હોય તો દાખલ થયાના દરેક પ્રસંગ માટે એક કોલમ ભરવી.

પ્ર-૪૬ છેલ્લાં એક વર્ષ દરમ્યાન પૈસા ન હોવાને કારણે, તમારા કુટુંબમાંથી કોઇ એવું હતું કે જેની હાલત દવાખાનામાં દાખલ કરવા જેવી હતી પણ તેમને દાખલ નહોતા કર્યા ?

હા = ૧

ના = ૨

ખબર નહીં = 3

જો હા, તો વિશે થોડું જણાવશો ? _____

_____

		૧	૨	3
પ્ર-૪૭	દાખલ કરેલ વ્યક્તિનો ક્રમ (પ્ર-૨૨ સાથે મળતું આવવું જોઇએ)	⌊⌋	⌊⌋	⌊⌋
પ્ર-૪૮	બિમારી /માંદગીનો ક્રમ (પ્ર-૨૨ સાથે મળતું આવવું જોઇએ)	⌊⌋	⌊⌋	⌊⌋
પ્ર-૪૯	લીધેલ પગલાં	⌊⌋	⌊⌋	⌊⌋

સૂચનાઓ :

સરકારી દવાખાનું	૦૧
ખાનગી દવાખાનું /નર્સીંગ હોમ	૦૨
ટ્રસ્ટ દવાખાનું (શ્રી કૃષ્ણ મેડીકલનો સમાવેશ કરવો.)	03
ઇ. એસ. આઇ. એસ. દવાખાનું	૦૪
અન્ય	૦૫

પ્ર. ૫૦	આ સારવાર લેવાનું તમને કોણે સૂચવ્યું હતું ?	⌊⌋	⌊⌋	⌊⌋

સૂચના :

માંદી પડેલ વ્યક્તિએ નક્કી કર્યું હતું.	૦૧
કુટુંબના વડાએ નક્કી કર્યું હતું	૦૨
માંદી પડેલ વ્યક્તિની સાથે કુટુંબના અન્ય સભ્યોએ નક્કી કર્યું હતું.	03
કુટુંબના અન્ય સભ્યો	૦૪
આરોગ્ય કાર્યકરે અથવા તબીબે નક્કી કર્યું હતું.	૦૫
અન્ય જણાવો	૮
ખબર નહીં	૯૯

પ્ર-૫૧	સીઝન	⌊⌋	⌊⌋	⌊⌋

સૂચના :

શિયાળો -	૧
ઉનાળો -	૨
ચોમાચું -	3
ખબર નહીં -	૯

પ્ર-૫૨	સારવારનો સમયગાળો (દાખલ થયા તે દિવસથી રજા આપી તે દિવસ સુધી)	⌊⌋ દિવસો	⌊⌋ દિવસો	⌊⌋ દિવસો
પ્ર-૫૩	સારવારની ગુણવત્તા	⌊⌋	⌊⌋	⌊⌋

સૂચના :

ઘણીસારી	૧
સારી	૨
ઠીક	3
ખરાબ	૪

પ્ર-૫૪ સારવારનું પરિણામ ___ ___ ___

સૂચના :

સારુ થઇ ગયું	૧	એવું ને એવુજ રહ્યું	૪
થોડું સારું થયું	૨	હજી સારવાર ચાલુ છે.	૫
વધી ગયુ	૩	ખબર નહીં	૯

પ્ર -૫૫ દાક્તર/તબીબની ફી

(તબીબ દ્વારા આપવામાં

આવેલ દવાઓનો પણ સમાવેશ કરવો. ___|___|___|રૂા. ___|___|___|રૂા. ___|___|___|રૂા.

પ્ર-૫૬ રૂમનું ભાડુ ___|___|___|રૂા. ___|___|___|રૂા. ___|___|___|રૂા.

પ્ર-૫૭ દવાનો ખર્ચ ___|___|___|રૂા. ___|___|___|રૂા. ___|___|___|રૂા.

પ્ર-૫૮ ટેસ્ટ ___|___|___|રૂા. ___|___|___|રૂા. ___|___|___|રૂા.

પ્ર-૫૯ આવવા - જવાનો વાહન ખર્ચ/ભાડું ___|___|___|રૂા. ___|___|___|રૂા. ___|___|___|રૂા.

પ્ર-૬૦ અન્ય ખર્ચાઓ ___|___|___|રૂા. ___|___|___|રૂા. ___|___|___|રૂા.

પ્ર-૬૧ કુલ ખર્ચ (પ્ર-૫૫ થી પ્ર- ૬૦ નો સરવાળો) ___|___|___|રૂા. ___|___|___|રૂા. ___|___|___|રૂા.

પ્ર-૬૨ દાખલ થયેલ વ્યક્તિએ ગુમાવેલ
વેતન /રોજ ___|___|___|રૂા. ___|___|___|રૂા. ___|___|___|રૂા.

પ્ર-૬૩ દાખલ થયેલ વ્યક્તિની
સેવા /સંભાળ રાખનાર વ્યક્તિએ
ગુમાવેલ વેતન /રોજ ___|___|___|રૂા. ___|___|___|રૂા. ___|___|___|રૂા.

પ્ર-૬૪ આ ખર્ચો પૂરો પાડવા માટે તમને કોઇ
યોજનમાંથી પૈસા મળ્યા હતા કે જેમાં
અગાઉથી રકમ ભરીને સભ્ય બની શકાય ?
હા = ૧
ના = ૨ → પ્ર-૬૬ પૂછવો ___ ___ ___

પ્ર-૬૫ કેટલા સુધીનો ખર્ચો મળ્યો હતો ? ___|___|___|રૂા. ___|___|___|રૂા. ___|___|___|રૂા.

પ્ર-૬૬ ઘરમાં પૂરતા પૈસા અથવા બચત હતી ? ___ ___ ___
હા = ૧ → પ્ર-૬૮ પૂછવો
ના = ૨

પ્ર-૬૭ પૈસાની સગવડ કેવી રીતે કરી ? ___|___ ___|___ ___|___

સૂચના :

સોના/ચાંદીના ઘરેણાં વેચીને	૦૧	અનાજ /પાણી ઓછા લાવ્યા	૧૧
વાસણ વેચીને	૦૨	મોજ શોખનો ખર્ચ ઘટાડ્યો	૧૨
અનાજ વેચીને	૦૩	પગારમાંથી ઠપાવ્યા	૧૩
ખેતીના ઓજરો વેચીને	૦૪	વિશ્વાસના આધારે - સારવાર પૂરી થયા બાદ ભરીશું	૧૪
નાણાં ધીરનાર પાસેથી ઉધાર લઇને	૦૫	પૈસા સિવાયની વસ્તુથી ભરપાઇ કર્યા	૧૫
બેંકમાંથી ઉધાર લઇને	૦૬	ખેતર /મિલકત ગીરો મૂકીને	૧૬
શેઠ પાસેથી ઉધાર લઇને	૦૭	વધારે મહેનત કરીને	૧૭
મિત્ર /સંબંધી પાસેથી ઉધાર લઇને	૦૮	યાદ નથી	૧૯
ભીખ માંગીને / ભેટ મળી	૦૯	અન્ય	૯૯
પશુ વેચીને (ઢોર, ભેંસ)	૧૦		

		૪	૫	૬
પ્ર-૪૭	દાખલ કરેલ વ્યક્તિનો ક્રમ (પ્ર-૨૨ સાથે મળતું આવવું જોઇએ)	_|_	_|_	_|_
પ્ર-૪૮	બિમારી /માંદગીનો ક્રમ (પ્ર-૨૨ સાથે મળતું આવવું જોઇએ)	_|_	_|_	_|_
પ્ર-૪૯	લીધેલ પગલાં	_|_	_|_	_|_

સૂચનાઓ :

સરકારી દવાખાનું	૦૧
ખાનગી દવાખાનું /નર્સીંગ હોમ	૦૨
ટ્રસ્ટ દવાખાનું (શ્રી કૃષ્ણ મેડીકલનો સમાવેશ કરવો.)	૦૩
ઇ. એસ. આઇ. એસ. દવાખાનું	૦૪
અન્ય	૦૫

પ્ર. ૫૦	આ સારવાર લેવાનું તમને કોણે સૂચવ્યું હતું ?	_|_	_|_	_|_

સૂચના :	માંદી પડેલ વ્યક્તિએ નક્કી કર્યું હતું.	૦૧	કુટુંબના અન્ય સભ્યો ૦૪
	કુટુંબના વડાએ નક્કી કર્યું હતું	૦૨	આરોગ્ય કાર્યકરે અથવા તબીબે નક્કી કર્યું હતું. ૦૫
	માંદી પડેલ વ્યક્તિની સાથે કુટુંબના		અન્ય જણાવો ૮
	અન્ય સભ્યોએ નક્કી કર્યું હતું.	૦૩	ખબર નહીં ૯૯

પ્ર-૫૧	સીઝન	_|	_|	_|

સૂચના : શિયાળો - ૧
ઉનાળો - ૨
ચોમાસું - ૩
ખબર નહીં - ૯

પ્ર-૫૨	સારવારનો સમયગાળો (દાખલ થયા તે દિવસથી રજા આપી તે દિવસ સુધી)	_|_ દિવસો	_|_ દિવસો	_|_ દિવસો
પ્ર-૫૩	સારવારની ગુણવત્તા	_|	_|	_|

સૂચના : ઘણીસારી ૧
સારી ૨
ઠીક ૩
ખરાબ ૪

પ્ર-૫૪ સારવારનું પરિણામ ___ ___ ___

સૂચના :

સારુ થઇ ગયું	૧	એવું ને એવુજ રહ્યું	૪
થોડું સારું થયું	૨	હજી સારવાર ચાલુ છે.	૫
વધી ગયુ	૩	ખબર નહીં	૯

પ્ર -૫૫ દાક્તર/તબીબની ફી

(તબીબ દ્વારા આપવામાં

આવેલ દવાઓનો પણ સમાવેશ કરવો. ___ ___ ___ રૂા. ___ ___ ___ રૂા. ___ ___ ___ રૂા.

પ્ર-૫૬ રૂમનું ભાડુ ___ ___ ___ રૂા. ___ ___ ___ રૂા. ___ ___ ___ રૂા.

પ્ર-૫૭ દવાનો ખર્ચ ___ ___ ___ રૂા. ___ ___ ___ રૂા. ___ ___ ___ રૂા.

પ્ર-૫૮ ટેસ્ટ ___ ___ ___ રૂા. ___ ___ ___ રૂા. ___ ___ ___ રૂા.

પ્ર-૫૯ આવવા - જવાનો વાહન ખર્ચ/ભાડું ___ ___ ___ રૂા. ___ ___ ___ રૂા. ___ ___ ___ રૂા.

પ્ર-૬૦ અન્ય ખર્ચાઓ ___ ___ ___ રૂા. ___ ___ ___ રૂા. ___ ___ ___ રૂા.

પ્ર-૬૧ કુલ ખર્ચ (પ્ર-૫૫ થી પ્ર- ૬૦ નો સરવાળો) ___ ___ ___ રૂા. ___ ___ ___ રૂા. ___ ___ ___ રૂા

પ્ર-૬૨ દાખલ થયેલ વ્યક્તિએ ગુમાવેલ
વેતન /રોજ ___ ___ ___ રૂા. ___ ___ ___ રૂા. ___ ___ ___ રૂા

પ્ર-૬૩ દાખલ થયેલ વ્યક્તિની
સેવા /સંભાળ રાખનાર વ્યક્તિએ
ગુમાવેલ વેતન /રોજ ___ ___ ___ રૂા. ___ ___ ___ રૂા. ___ ___ ___ રૂા.

પ્ર-૬૪ આ ખર્ચો પૂરો પાડવા માટે તમને કોઇ ___ ___ ___
યોજનમાંથી પૈસા મળ્યા હતા કે જેમાં
અગાઉથી રકમ ભરીને સભ્ય બની શકાય ?
હા = ૧
ના = ૨ → પ્ર-૬૬ પૂછવો

પ્ર-૬૫ કેટલા ચુધીનો ખર્ચો મળ્યો હતો ? ___ ___ ___ રૂા. ___ ___ ___ રૂા. ___ ___ ___ રૂા.

પ્ર-૬૬ ઘરમાં પૂરતા પૈસા અથવા બચત હતી ? ___ ___ ___
હા = ૧ → પ્ર-૬૮ પૂછવો
ના = ૨

પ્ર-૬૭ પૈસાની સગવડ કેવી રીતે કરી ? ___ ___ ___

સૂચના :

સોના/ચાંદીના ઘરેણાં વેચીને	૦૧	અનાજ /પાણી ઓછા લાવ્યા	૧૧
વાસણ વેચીને	૦૨	મોજ શોખનો ખર્ચ ઘટાડ્યો	૧૨
અનાજ વેચીને	૦૩	પગારમાંથી ઠપાવ્યા	૧૩
ખેતીના ઓજારો વેચીને	૦૪	વિશ્વાસના આધારે - સારવાર પૂરી થયા બાદ ભરીશું	૧૪
નાણાં ધીરનાર પાસેથી ઉધાર લઇને	૦૫	પૈસા સિવાયની વસ્તુથી ભરપાઇ કર્યા	૧૫
બેંકમાંથી ઉધાર લઇને	૦૬	ખેતર /મિલકત ગીરો મૂકીને	૧૬
શેઠ પાસેથી ઉધાર લઇને	૦૭	વધારે મહેનત કરીને	૧૭
મિત્ર /સંબંધી પાસેથી ઉધાર લઇને	૦૮	યાદ નથી	૧૯
ભીખ માંગીને / ભેટ મળી	૦૯	અન્ય	૯૬
પશુ વેચીને (ઢોર, ભેંસ)	૧૦		

પ્ર-૬૮ છેલ્લાં એક વર્ષ દરમ્યાન તમારા કુટુંબમાંથી કોઇએ વૈદ્યની મુલાકાત લીધી છે ?

હા ૧
ના ૨
ખબર નહીં ૯

પ્ર-૬૯ છેલ્લાં એક વર્ષ દરમ્યાન, તમારા કુટુંબમાંથી કોઇએ હાડવૈદ્યની મુલાકાત લીધી છે ?

હા ૧
ના ૨
ખબર નહીં ૯

પ્ર-૭૦ છેલ્લાં એક વર્ષ દરમ્યાન, તમારા કુટુંબમાંથી કોઇ ભુવા પાસે ગયું છે ?

હા ૧
ના ૨
ખબર નહીં ૯

પ્ર-૭૧ તમે જે માંદગી વિમા વિષે જાણતા હોય તો તે વિષે કંઇ જણાવશો ?

હા ૧
ના ૨
ખબર નહીં ૯

જે હા હોય તો જણાવો
(સંશોધન કર્તાએ ઉત્તરદાતાને નીચે જણાવેલ જવાબો કહેવા નહીં એક થી વધુ જવાબો મળવાની શક્યતાઓ છે)

૭૨. પ્રિમિયમ અથવા સભ્ય ફી ભરવાની હોય છે.

૭૩. તબીબી સારવાર માટે ખર્ચો મળે છે (દા. ત. દવાઓ, ટેસ્ટ, ફી, દાખલ ખર્ચ)

૭૪ માંદગી દરમ્યાન ગુમાવેલ રોજી માટે ખર્ચ મળે છે.

૭૫ ૧૦૦% ખર્ચ મળવો જોઇએ.

૭૬ મરણ પછી વારસદારોને પૈસા મળે છે.

૭૭ એક પ્રકારની બચત છે / પોલીસી- વિમો પાકે ત્યારે પૈસા વત્તા વ્યાજ પરત મળે છે.

૭૮ અન્ય જણાવો. _____

૭૯ ખબર નહીં.

સૂચના : પ્ર-૮૦ થી ૮૪ ના જવાબ ઉત્તરદાતાનું ઘર અને પહેરવેશ /કપડાંનું નિરિક્ષણ કરીને ભરવા

પ્ર-૮૦ ઘરનો પ્રકાર

પોતાનું ૧
સહિયારું ૨
ભાડે ૩
શેઠ /માલિકે ઘર રહેવા આપ્યું છે. ૪
અન્ય જણાવો _____ ૯

પ્ર-૮૧ ભીંત ચણતર :

માટીની ભીંત ૧
સીમેન્ટ - ઇંટની ભીંત ૨
અન્ય (જણાવો) ૯

પ્ર-૮૨ છાપરા માટેની સામગ્રી

ઘાસ / નાળો	૧	નળિયાં	૪
પતરાનું	૨	અન્ય (જણાવો)	૯
ધાબુ ભરેલું	૩		

પ્ર-૮૩ જમીન માટે વપરાયેલ સામગ્રી

લીપણ	૧	પથ્થર / લાદી	૩
સીમેન્ટ પ્લાસ્ટર	૨		

પ્ર-૮૪ ઉત્તરદાતાનું ઘર, કુટુંબના સભ્યોના કપડાં અને ઘરની ગોઠવણી જોતા, આ કુટુંબ કેવા પ્રકારનું લાગે છે.

ગરીબ	૧
મધ્યમવર્ગ	૨
શ્રીમંત	૩
કહી ના શકાય	૯

સૂચના : નીચે દર્શાવેલ પ્રશ્નો ઉત્તરદાતાને પૂછવા.

પ્ર-૮૫ તમારી પાસે રેશન કાર્ડ છે ?

હા =	૧
ના =	૨ → પ્રશ્ન ૮૭ પૂછવો

પ્ર-૮૬ તમારુ રેશન કાર્ડ કયા રંગનું છે ?

ગુલાબી	૧
ખાખી	૨
સફેદ	૩

પ્ર-૮૭ તમારા કુટુંબના સભ્યો કયા પ્રકારનું બજરૂ વાપરે છે ?

ખુલ્લામાં	૧
જાહેર / સરકારી જગ્યા	૨
પોતાનું જાજરૂ	૩
અન્ય	૯

પ્ર-૮૮ તમારા ઘરમાં વિજળી જોડાણ છે ?

હા = ૧

ના = ૨

પ્ર-૮૯ તમે પીવાનું પાણી ક્યાંથી મેળવો છો ?

ઘરમાં પાઇપ દ્વારા જોડાણ છે	૦૧	નદી, તળાવ, સરોવર	૦૫
ઘરના વાડામાં પાઇપ દ્વારા જોડાણ છે.	૦૨	ટેંકર દ્વારા, અન્ય પાસેથી, પડોશમાંથી	૦૬
જાહેર નળ જોડાણ	૦૩	વરસાદનું પાણી	૦૭
કુવામાંથી	૦૪	અન્ય	૦૯

પ્ર-૯૦ થી પ્ર-૧૦૨ નીચે દર્શાવેલ વસ્તુઓમાંથી તમારું કુટુંબ કઇ વસ્તુઓ ધરાવે છે ? (જેની સંખ્યા ૯૯ અથવા તેના કરતા વધુ હોય તો તેની સામે '૯૯' લખવું)

૯૦	આ સિવાય અન્ય ઘર / રહેઠાણ	
૯૧	ઘર માટેની જમીન	એકર / વિઘા / ગુંઠા
૯૨	બકરી	
૯૩	ગાય	
૯૪	બળદ	
૯૫	ભેંસ	
૯૬	ટી.વી.	
૯૭	સાઇકલ (બે પૈંડાવાળી)	
૯૮	સ્કુટર / મોપેડ / મોટર સાઇકલ	
૯૯	ગાડા	
૧૦૦	ત્રણ-ચાર પૈંડાવાળા વાહનો	
૧૦૧	પાણીની ડંકી	
૧૦૨	ફ્રીજ	

પ્ર-૧૦૩ તમારી પાસે ખેતીની જમીન છે ? ___

હા = ૧ → પ્રશ્ન ૧૦૪ પૂછવો ગીરો આપી છે 3

ના = ૨ → પ્રશ્ન ૧૦૫ પૂછવો

પ્ર-૧૦૪ - તમારી પાસે કેટલી ખેતીની જમીન છે ? ___ એકર / વિઘા / ગુંઠા ___

પ્ર-૧૦૫ તમારા કુટુંબના પ્રૌઢ વ્યક્તિઓ, સામાન્ય રીતે એક દિવસમાં કેટલી વખત જમે છે ? ___ ___

પ્ર-૧૦૬ સામાન્ય રીતે તમે અનાજ પાણી લાવવા કેટલો ખર્ચ કરો છો ? ___ રૂા. ___

● ફક્ત બિન સભ્યો માટે નીચેના પ્રશ્નો પૂછવા :

પ્ર- ૧૦૭ તમે અથવા તમારા કુટુંબના સભ્યો એવી કોઇ યોજનામાં શા માટે નથી જોડાયા, કે જેમાં અગાઉથી અમુક રકમ ભરીને બદલામાં માદાં પડીએ ત્યારે કોઇ લાભ મળતો હોય ?

ખૂબ મોંઘુ છે	૦૧
પતિ અથવા કુટુંબના અન્ય સભ્યએ ના પાડી	૦૨
અંધશ્રદ્ધા (તેમા જોડાવાથી માંદા પડાય અથવા મરી જવાય)	૦૩
ડેરીના સભ્ય ન હોવાથી	૦૪
વિમો ઉતારનારે ના પાડી	૦૫
આરોગ્ય સેવા માટે વધુ ખર્ચ કરવો પડે તો પણ વાંધો નથી	૦૬
આવી યોજના સહેલાઇથી ઉપલબ્ધ નથી	૦૭
કારણકે આવી યોજનાઓ આખા કુટુંબને નથી આવરી લેતી	૦૮
અમે અભણ હોવાથી	૦૯
૧૦૦ % ખર્ચો મળતો નથી.	૧૦
આ બાબતે જાણકારી ન હોવાથી	૧૧
અન્ય જણાવો	૧૨
ખબર નહીં	૯૯

૦ ફકત શ્રીભુવનદાસ ફાઉન્ડેશનના કુટુંબો માટેના પ્રશ્નો

પ્ર ૧૦૮ ત્રિભુવનદાસ ફાઉન્ડેશનની નોંધ પ્રમાણે તમારું કુટુંબ આ સંસ્થામાં સભ્યપદ ધરાવે છે. આ વિષે તમને ખબર છે?

હા ૧
ના ૨

પ્ર ૧૦૯ તમારી જાણકારી મુજબ ત્રિભુવનદાસ ફાઉન્ડેશનમાં કોણ સભ્ય બની શકે ?

ડેરી કો-ઓપરેટીવના સભ્યો ૧
કોઇપણ ૨
અન્ય (જણાવો) ૮
ખબર નહીં ૯

પ્ર ૧૧૦ કોઇ કુટુંબને ત્રિભુવનદાસ ફાઉન્ડેશનમાં જોડાવા શું કરવું પડે ?

ડેરી કો - ઓપરેટીવના સભ્ય હોય એટલે આપમેળે જ બની જવાય. ૧
દસ રૂપિયા ભરીને-બની શકાય ૨
અમુક રકમ ભરીને (જણાવો) _____ 3
અન્ય (જણાવો) _____ ૮
ખબર નહીં ૯

પ્ર ૧૧૧ ત્રિભુવનદાસ ફાઉન્ડેશનના સભ્ય બનવાથી શું લાભ થાય છે ? (એકથી વધુ જવાબો મળવાની શક્યતા છે)

દાન - સારા કામ માટે પૈસા વપરાય છે ૧
મફત / ઓછા ભાવે દવાઓ મળે ૨
આરોગ્ય કાર્યકર પાસેથી મફત /ઓછા ભાવે સારવાર 3
મફત /ઓછા ભાવે ડોક્ટરની સેવા ૪
મફત /ઓછા ભાવે દવાખાનામાં દાખલ થઇ શકાય ૫
અન્ય (જણાવો)_____ ૮
ખબર નહીં. ૯

પ્ર ૧૧૨ તમારા મત મુજબ ત્રિભુવનદાસ ફાઉન્ડેશનના સભ્ય બનવાનો સૌથી મહત્વનો ફાયદો કયો છે ?

પ્ર ૧૧૩ ખરેખર તો, ત્રિભુવનદાસ ફાઉન્ડેશનના સભ્ય બનવું એટલે તમારુ કુટુંબ વર્ષે દસ રૂપિયા સભ્ય ફી ભરે છે. જો એક વર્ષ દરમ્યાન તમે દસ રૂપિયા બદલ મળતા લાભનો ઉપયોગ ન કરો, તો અન્ય કોઇ કુટુંબ તમારા દસ રૂપિયાનો લાભ મળે તો આ બાબતે તમને કેવું લાગશે ?

કંઇ વાંધો નહીં - સારા કામ માટે વપરાય છે. ૧
કંઇ વાંધો નહીં - બહુ નાની રકમ છે. ૨
મને મારા પૈસા પાછા મળવા જોઇએ 3
અન્ય (જણાવો) _____ ૪
ખબર નહીં ૫

પ્ર ૧૧૪ તમારા મત મુજબ ત્રિભુવનદાસની યોજનાને કઇ રીતે સુધારી શકાય ?
(એક કરતા વધુ જવાબ મળવાની શક્યતા છે)

સભ્ય ફી માં ઘટાડો ૧
સભ્ય ફીમાં વધારો ૨
ગ્રામ્ય સ્તરે આરોગ્ય સેવામાંસુધારો 3
સબ - સેન્ટર ખાતે આરોગ્ય સેવામાં સુધારો ૪
દવાખાના હોસ્પટીલ ખાતે ૫
આરોગ્ય સેવામાં સુધારો / આરોગ્ય શિક્ષણમાં વધારો ૬
યોજનાનો પ્રચાર કરવો જોઇએ ૭
અન્ય (જણાવો) _____ ૮
ખબર નહીં. ૯

૭ ફક્ત સેવાના કુટુંબોને પૂછવાના પ્રશ્નો

પ્ર ૧૧૫ સેવાની નોંધ પ્રમાણે તમારા કુટુંબમાંથી ઓછામાં ઓછું એક સભ્ય સેવાની વિમા યોજનામાં જોડાયેલ છે આ વિષે તમને ખબર છે ?

હા ૧
ના ૨

પ્ર ૧૧૬ તમારા મત મુજબ, સેવાની વિમા યોજનામાં કોણ જોડાઇ શકે ?

ફક્ત બહેનો ૧
૧૮ થી ૫૮ વર્ષના બહેનો ૨
કોઇપણ ૩
અન્ય જણાવો _____ ૮
ખબર નહીં ૯

પ્ર ૧૧૭ સેવામાંથી વિમો કેવી રીતે લઇ શકાય ?

વર્ષે રૂા. ૬૫ અથવા રૂા. ૮૦ ભરીને ૧
રૂા. ૫૦૦ અથવા રૂા. ૭૦૦ ફીક્સ ડીપોઝીટ ભરીને ૨
અમુક રકમ ભરીને (જણાવો) _____ ૮
ખબર નહીં ૯

પ્ર ૧૧૮ સેવા હેઠળ વિમો લેવાથી શું ફાયદા થાય છે ? (એકથી વધુ જવાબોની શક્યતા છે)

દાન - સારા કામ માટે પૈસા વપરાય છે. ૧
મરણ પછી પૈસા મળે છે. ૨
ઘરના નુકશાન માટે વળતર મળે ૩
આરોગ્ય સારવાર માટે વળતર મળે છે. ૪
અન્ય (જણાવો) _____ ૮
ખબર નહીં. ૯

પ્ર ૧૧૯ તમારા મત મુજબ સેવામાંથી વિમો લેવાનો સૌથી મહત્વનો ફાયદો કયો છે ?

પ્ર ૧૨૦ ખરેખર તો, સેવાની વિમા યોજનામાં જોડવા માટે, એક વ્યક્તિએ દર વર્ષે અમુક રકમ (રૂા. ૬૫ થી ૮૦ સુધી) ભરવી પડે છે. અથવા એક જ વખત અમુક રકમ ફીક્સ ડીપોઝીટ તરીકે ભરવી પડે છે. જો, એક વર્ષ દરમ્યાન તમે સેવાની વિમા યોજના હેઠળ મળતા લાભ ન લીધા હોય તો તમારી સભ્ય ફી અથવા ફીક્સ ડીપોઝીટમાંથી અન્ય કોઇને લાભ મળી શકે. આ બાબતે તમને કેવું લાગે છે. ?

કંઇ વાંધો નહીં - સારા કામ માટે વપરાય છે. ૧
કંઇ વાંધો નહીં - બહુ નાની રકમ છે. ૨
મને પૈસા પાછા મળવા જોઇએ. ૩
અન્ય (જણાવો) _____ ૪
ખબર નહીં ૫

પ્ર ૧૨૧ તમારા મત મુજબ સેવા યોજનાને કઇ રીતે સુધારી શકાય ? (એક કરતા વધુ જવાબો મળવાની શક્યતા છે)

કુટુંબના બધા સભ્યોને આવરી લેવા જોઇએ ૧
બધી બિમારીઓ આવરી લેવી જોઇએ ૨
૧૦૦% ખર્ચ મળવો જોઇએ ૩
ઘરડા/ મોટી ઉંમરના બહેનોને જોડાવા દેવા જોઇએ ૪
સભ્ય ફી માં ઘટાડો ૫
આરોગ્ય શિક્ષણમાં વધારો ૬
યોજનાનો પ્રચાર કરવો જોઇએ ૭
અન્ય (જણાવો) _____ ૮
ખબર નહીં ૯

૨૨ વ્યક્તિ ગત મુલાકાત પૂરી થયાનો સમય :

__ __ __ __ સવાર / બપોર / સાંજ

૨૩ ઉત્તરદાતાએ આપેલ જવાબો કેટલા આધારભૂત છે ?

બધા જવાબો આધારભૂત	૧
મોટાભાગે આધારભૂત	૨
થોડા અંશે આધારભૂત	૩
બિન આધાર ભૂત	૪

૨૪ ઉત્તર દાતા તરફથી મળેલ સહયોગ

ખૂબ સારો	૧
સારો	૨
એટલો સારો નહીં	૩
જરા પણ સારો નહીં	૪

૨૫ પૂછાયેલ પ્રશ્નો અંગે ઉત્તરદાતાને સમજણ પડી હતી ?

કોઇ તકલીફ નહોતી પડી	૧
થોડી તકલીફ પડી હતી	૨
ઘણી તકલીફ પડી હતી	૩
ઘણી બધી તકલીફ પડી હતી	૪

નોંધ : / ટીપ્પણી

વ્યક્તિગત મુલાકાત લેનાર દ્વારા તપાસ્યા બાદ તેમની સહી_____

APPENDIX 2: ENGLISH HOUSEHOLD INTERVIEW QUESTIONNAIRE

HOUSEHOLD INTERVIEW QUESTIONNAIRE
STUDY OF HEALTH CARE FINANCING IN KHEDA & ANAND DISTRICTS
LSHTM

CODE FOR COMPUTER

Q1 to Q5 should be completed before approaching the household:

Q1. Interviewer's Name: _____ Identification No: __

Q2. Village Name: _____ Identification No: __

Q3. Household Number: __

Q4. Household Type:

Tribhuvandas Foundation	1
SEWA (At least 1 insured SEWA member)	2
Control	3

Q5.

First interview	1
Re-interview	2

Re-checked and coded by Research Assistant, Initials: _____ Date: __/__

Re-Checked by Principal Investigator: _____ Date: __/__

Ideally, the respondent to this questionnaire should be the wife of the household head. If the household head is currently unmarried, then another adult female (older than 18 years of age) should be questioned. If all adult females are away from the home, then you should excuse yourself and return at a later date. Only if there are no adult females living in the household should you interview and adult male.

Namaste ben! I am conducting research amongst households in your village. Your household has been chosen at random for our study. The purpose of this study is to learn about patterns of health-care seeking, and health-care financing in Kheda and Anand Districts. I would like to ask you a number of questions about recent illness episodes amongst your household members. Your responses will be recorded in writing, but the answers you give will be strictly confidential. The questionnaire takes approximately 45 minutes to complete. It is hoped that the results of this research will ultimately benefit you and other members of your household. The findings of our research will be presented at a community meeting in this village within the next year. Your participation in this study would be greatly appreciated.

Record of visits to household:

	Day	Month	Time	Interviewed?	If 'NO', why not?
1	__	_____	___:___	Yes/No	_____
2	__	_____	___:___	Yes/No	_____
3	__	_____	___:___	Yes/No	_____
4	__	_____	___:___	Yes/No	_____

Q6. Date of interview: __/__/__

Q7. Time Interview Started: __:__ Morning/Afternoon/Evening

Address of Household: _____

Name of Household Head: _____

Name of Respondent: _____

Q8. Gender of Respondent:

Female	1
Male	2

Q9. Relationship to Household Head:

Head of household	01	Parent-in-law	07
Spouse	02	Brother/Sister	08
Son/Daughter	03	Brother-in-law/Sister-in-law	09
Son-in-law/Daughter-in-law	04	Nephew/Niece	10
Parent	05	Other Blood Relative	11
		Unrelated	12

Q10. Religion:

Hindu	01
Muslim	02
Jain	03
Christian	04
Other (specify) _____	99

Q11. Caste:

Scheduled Caste	01
Scheduled Tribe	02
Other backward class	03
Bhakshipanch	04
Other (specify) _____	99

Q12. How many people have regularly eaten food from your kitchen over the thirty days (we will define these as your household members): _|_|

Q13. How many, if any, family members have died within the last year? _|_|
(Those who have died should be included in the census list. Further, their illnesses should be recorded if they have died within the last month, as should their hospitalizations within the last year.)

For each household member, please provide the following information:

	Name	Q14. Relat'n	Q15. Gender Male = 1 Female = 2	Q16. Age	Q17. Marital Status	Q18. Person can read and write a simple letter? 1=Yes, 2=No	Q19. Education	Q20. Primary Occupation
1								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								
13.								
14.								
15.								

Instructions:

Q14. Relationship of the individual to the household head:

Head of household	*01*	*Parent*	*06*	*Other Blood Relative*	*11*
Spouse	*02*	*Parent-in-law*	*07*	*Unrelated*	*12*
Son/Daughter	*03*	*Brother/Sister*	*08*		
Son-in-law/Daughter-in-law	*04*	*Brother-in-law/Sister-in-law*	*09*		
Grandchild	*05*	*Nephew/Niece*	*10*		

Q16. Age in years at last birthday. Infants less than one year of age, write 00. Include approximate age if respondent in uncertain.

Q17. Marital Status:

Married	*1*	*Never Married*	*2*	*Divorced*	*4*
		Widow/Widower	*3*	*Separated*	*5*
				Other	*6*

Q19. Education:

Nursery School	*00*	*Passed Master degree or above*	*14*
1st to 12th standard completed	*01 through 12*	*Passed Technical Diploma*	*15*
Passed Bachelor Level	*13*	*Illiterate*	*99*

Q20. Primary Occupation:

Presently studying	*01*	*Trained professional (e.g. doctor, engineer, teacher)*	*06*	*Military/Police*	*10*
Housework/Domestic work	*02*	*Unskilled daily wages (e.g. agricultural or factory worker)*	*07*	*Not able (e.g. elderly, child, mentally or physically disabled)*	*11*
Farming (including dairy farming)	*03*	*Skilled daily wages (e.g. plumber, electrician, turner)*	*08*	*Beggar*	*12*
Government employment	*04*	*Unskilled, monthly salary (e.g. maid)*	*09*	*Unemployed (looking for work)*	*13*
Self-employed (petty-business at home, small shop)	*05*			*Skilled, monthly salary (private employment)*	*14*
				Co-operative sector (e.g employee of dairy co-operative)	*15*
				Nothing (not looking)	*16*
				Don't know	*99*

Q21. Has anyone not been completely well within the last 30 days? *(Include any kind of illness suffered, as well as problems of pregnancy and childbirth, even if treatment WAS NOT sought. Also include here episodes of hospitalization within the last 30 days.).*

Yes/No

Q22. Has anyone been admitted to hospital during the last year (excluding hospitalizations within the last month)? (*If any member has suffered more than 1 illness in the last month, or more that 1 hospitalization in the last year, then each episode should be recorded separately.*)

Yes/No

Q23, 24. Finally, indicate if any family members belong to schemes wherein regular payments (or membership fees) are paid in advance, and in return, the cost, or partial cost of medicines, surgeries or hospitalizations is covered?

S.N.	Q21. Not completely well within last 30 days	Q22. Hospitalizations (overnight hospital stay within 1 year)	Q23. Membership in SEWA, 5 Rs paid (not including insurance) 1=Yes, 2=No	Q24. Prepayment schemes
1.	___, ___, ___	___, ___, ___	___	___
2.	___, ___, ___	___, ___, ___	___	___
3.	___, ___, ___	___, ___, ___	___	___
4.	___, ___, ___	___, ___, ___	___	___
5.	___, ___, ___	___, ___, ___	___	___
6.	___, ___, ___	___, ___, ___	___	___
7.	___, ___, ___	___, ___, ___	___	___
8.	___, ___, ___	___, ___, ___	___	___
9.	___, ___, ___	___, ___, ___	___	___
10.	___, ___, ___	___, ___, ___	___	___
11.	___, ___, ___	___, ___, ___	___	___
12.	___, ___, ___	___, ___, ___	___	___
13.	___, ___, ___	___, ___, ___	___	___
14.	___, ___, ___	___, ___, ___	___	___
15.	___, ___, ___	___, ___, ___	___	___

Instructions:

Q21 and Q22.

General: *Fever, chills* *01*

Neuro: *Headache, dizziness* *02*

Sensory: *Problems with ears, hearing, eyes, vision, skin diseases* *03*

Resp: *Cough, cold, asthma, anemia, TB, lung and throat CA* *04*

GI: *Abdominal pain, diarrhea, vomiting, intestinal CA* *05*

GU: *Urinary problems, kidney problems, STDs, uterine CA* *06*

Ortho: *Joint disease, fractures* *07*

Injuries: *and other wounds* *08*

Pregnancy, Delivery & family planning *09*

CVS: *Heart problems, blood pressure* *10*

Other (specify) *99*

Q24 Prepayment Schemes:

Tribhuvandas *1*

SEWA Lifetime Membership/Fixed Deposit *2*

SEWA Yearly Membership *3*

Mediclaim/Jan Arogya Bima *4*

ESIS *5*

Employers Reimbursement *6*

None *7*

Other (specify) *9*

Instructions: Note, for each illness episode for which treatment was sought, complete the first column below. If more than one source of treatment was sought, then complete the following columns.

For *each* episode of illness within the last 30 days, complete the following questions (Q25 to 45):

Person ill within the last 30 days, S.N.: __

Illness: __
* Note, this information should correspond to one cell in column Q21.

Q25. Was any treatment (home remedy or otherwise) taken for this episode?
Yes 1
No 2
Don't know 3

Q26. Did you take *only* home remedy/treatment for this illness:
Yes 1
No 2 ▸ **GO TO Q28**

Q27. What was the home remedy? _____
How much did you spend __ Rs

Q28. Why did you not go for treatment outside the home?

Thought not serious 01
Got better soon after being sick 02
Too far/No transportation avail 03
Too expensive/not enough money 04
Don't like going to healers/doctors 05
Healers/doctors not effective 06
Knew self-treatment 07
Other (specify) 08
Don't know 99

	First Treatment	Second Treatment	Third Treatment
Q29. Days between onset (or previous treatment) and this action	__ days	__ days	__ days
Q30. Action Taken (If private doctor, do they hold degree?)	__	__	__

Instructions:

Home remedy 01
SEWA Health Worker 02
Tribhuvandas Village Health Worker 03
Other VHW/Village Leader 04
Government dispensary 05
Private dispensary 06
Charitable (including TF) dispensary 07
ESIS 08
Traditional doctor (e.g. Ayurved, Hardved, Quack) 09
Unqualified practitioner 10
Government hospital 11
Private hospital 12
Trust Hospital (incl. Shri Krishna) hospital 13
ESIS Hospital 14
Compounder 15
Other (specify) 99

Q31. Who decided on treatment?	__	__	__

Instructions:

Ill person alone 1
Household head 2
Ill person with help of family 3
Family other than the ill person 4
Health care provider 5
Other (specify) 8
Don't know 99

Q32. Duration of treatment (days)	__ days	__ days	__ days

Q33. Result of treatment ⌊_⌋ ⌊_⌋ ⌊_⌋

Instructions:

Got better	*1*	*Remained the same*	*4*
Got slightly better	*2*	*Still under treatment*	*5*
Got worse	*3*	*Don't know*	*9*

Q34. Provider Fees (incl. meds, tests given by provider) ⌊_|_|_|_⌋ Rs ⌊_|_|_|_⌋ Rs ⌊_|_|_|_⌋ Rs

Q35. Medication costs ⌊_|_|_|_⌋ Rs ⌊_|_|_|_⌋ Rs ⌊_|_|_|_⌋ Rs

Q36. Diagnostic Tests ⌊_|_|_|_⌋ Rs ⌊_|_|_|_⌋ Rs ⌊_|_|_|_⌋ Rs

Q37. Return Transportation ⌊_|_|_|_⌋ Rs ⌊_|_|_|_⌋ Rs ⌊_|_|_|_⌋ Rs

Q38. Other costs (PROMPT: Bribes, gifts) ⌊_|_|_|_⌋ Rs ⌊_|_|_|_⌋ Rs ⌊_|_|_|_⌋ Rs

Q39. Total costs (sum of Q34 to Q38) ⌊_|_|_|_⌋ Rs ⌊_|_|_|_⌋ Rs ⌊_|_|_|_⌋ Rs

Q40. Did any prepayment scheme help to cover these costs? Yes=1, No=2 ▸ **GO TO Q42** ⌊_⌋ ⌊_⌋ ⌊_⌋

Q41. How much coverage was provided? ⌊_|_|_|_⌋ Rs ⌊_|_|_|_⌋ Rs ⌊_|_|_|_⌋ Rs

Q42. Enough money available in house/savings? Yes=1 ▸ **GO TO Q44** No=2 ⌊_⌋ ⌊_⌋ ⌊_⌋

Q43. How was money obtained? ⌊_|_⌋ ⌊_|_⌋ ⌊_|_⌋

Instructions:

Sold gold/silver jewelry	*01*	*Reduced food purchased*	*11*
Sold cooking/kitchen utensils	*02*	*Reduced entertainment/hobbies*	*12*
Sold rice/food crop/cash crop	*03*	*Deducted from salary*	*13*
Sold farm tools	*04*	*On trust – will pay after treatment is completed*	*14*
Borrowed from moneylender	*05*	*Used business capital*	*15*
Borrowed from bank	*06*	*Paid in kind*	*16*
Borrowed from employer	*07*	*Mortgaged/pledged property/farm*	*17*
Borrowed from friend/relative	*08*	*Did extra labor*	*18*
Begged/received gift	*09*	*Don't remember*	*19*
Sold livestock/fowl	*10*	*Other*	*99*

Q44. During this illness episode, the total wages lost by the ill person: ⌊_|_|_|_⌋ Rs

Q45. During this illness episode, the total wages lost by the care-giver (or care-givers): ⌊_|_|_|_⌋ Rs

Instructions: For *each* hospitalization, complete Q46 to 67. Each column represents a different hospitalization. If one person has been hospitalized more than once in the last year, then one column should be completed for *each hospitalization*.

Q46. Where there any occasions within the last year when someone within the household *should* have been hospitalized, but was not? Which family member, what was the illness, and why were they not hospitalized?

	#1	#2	#3
Q47. Person hospitalized (should correspond to Q22).	⌐⌐	⌐⌐	⌐⌐
Q48. Illness (should correspond to Q22)	⌐⌐	⌐⌐	⌐⌐
Q49. Treatment source	⌐⌐	⌐⌐	⌐⌐

Instructions:

Government hospital	*01*
Private hospital/nursing home	*02*
Trust Hospital (incl. Shri Krishna Med Ctr)	*03*
ESIS Hospital	*04*
Other	*05*

Q50. Who decided on treatment?	⌐	⌐	⌐

Instructions:

Ill person alone	1
Household head	2
Ill person with help of family	3
Family other than the ill person	4
Health care provider	5
Other (specify)	8
Don't know	99

Q51. Season	⌐	⌐	⌐

Instructions:

Winter	*1*
Summer	*2*
Rainy	*3*
Don't know	*9*

Q52. Duration of treatment (days from admission to discharge)	⌐⌐ days	⌐⌐ days	⌐⌐ days
Q57. Quality of care:	⌐	⌐	⌐

Instructions:

Excellent	*1*
Good	*2*
Okay	*3*
Bad	*4*

Q54. Result of treatment	⌐⌙	⌐⌙	⌐⌙
Q55. Provider Fees (including meds given by provider)	⌐⌙⌙⌙⌙ Rs	⌐⌙⌙⌙⌙ Rs	⌐⌙⌙⌙⌙ Rs
Q56. Room costs	⌐⌙⌙⌙⌙ Rs	⌐⌙⌙⌙⌙ Rs	⌐⌙⌙⌙⌙ Rs
Q57. Medication costs	⌐⌙⌙⌙⌙ Rs	⌐⌙⌙⌙⌙ Rs	⌐⌙⌙⌙⌙ Rs
Q58. Diagnostic Tests	⌐⌙⌙⌙⌙ Rs	⌐⌙⌙⌙⌙ Rs	⌐⌙⌙⌙⌙ Rs
Q59. Return Transportation	⌐⌙⌙⌙⌙ Rs	⌐⌙⌙⌙⌙ Rs	⌐⌙⌙⌙⌙ Rs
Q60. Other costs	⌐⌙⌙⌙⌙ Rs	⌐⌙⌙⌙⌙ Rs	⌐⌙⌙⌙⌙ Rs
Q61. Total costs (sum of Q55 to Q60)	⌐⌙⌙⌙⌙ Rs	⌐⌙⌙⌙⌙ Rs	⌐⌙⌙⌙⌙ Rs
Q62. Wages lost by the person who was hospitalized	⌐⌙⌙⌙⌙ Rs	⌐⌙⌙⌙⌙ Rs	⌐⌙⌙⌙⌙ Rs
Q63. Wages lost by caregivers	⌐⌙⌙⌙⌙ Rs	⌐⌙⌙⌙⌙ Rs	⌐⌙⌙⌙⌙ Rs
Q64. Did any prepayment scheme help to cover these costs? Yes=1, No=2 ▸ GO TO Q66	⌐⌙	⌐⌙	⌐⌙
Q65. How much coverage was provided?	⌐⌙⌙⌙⌙ Rs	⌐⌙⌙⌙⌙ Rs	⌐⌙⌙⌙⌙ Rs
Q66. Enough money available in house/savings? Yes=1 ▸ GO TO Q68 No=2	⌐⌙	⌐⌙	⌐⌙
Q67. How was money obtained?	⌐⌙⌙	⌐⌙⌙	⌐⌙⌙

Instructions:

Got better	*1*	*Remained the same*	*4*
Got slightly better	*2*	*Still under treatment*	*5*
Got worse	*3*	*Don't know*	*9*

Instructions:

Sold gold/silver jewelry	*01*	*Reduced food purchased*	*11*
Sold cooking/kitchen utensils	*02*	*Reduced entertainment/hobbies*	*12*
Sold rice/food crop/cash crop	*03*	*Deducted from salary*	*13*
Sold farm tools	*04*	*On trust – will pay after treatment is completed*	*14*
Borrowed from moneylender	*05*	*Paid in kind*	*15*
Borrowed from bank	*06*	*Mortgaged/pledged property/farm*	*16*
Borrowed from employer	*07*	*Did extra labor*	*17*
Borrowed from friend/relative	*08*	*Don't remember*	*19*
Begged/received gift	*09*	*Other*	*99*
Sold livestock/fowl	*10*		

Q68. Within the last year, has anyone in your household visited a Vaid?

Yes	1
No	2
Don't know	9

Q69. Within the last year, has anyone in your household visited an Hadvaid (traditional bone-setter)?

Yes	1
No	2
Don't know	9

Q70. Within the last year, has anyone in your household visited a faith healer?

Yes	1
No	2
Don't know	9

Q71. Do you know anything about medical or illness insurance?

Yes	1
No	2
Don't know	9

Please tell me what, if anything, you know about medical or illness insurance (*interviewer should not prompt the respondent*). (More than one answer is possible)

Q72. Premium or membership is paid.
Q73. Covers the costs of medical care (e.g. medicines, tests, fees, and hospitalizations).
Q74. Covers wages lost during illness.
Q75. Must cover 100% of costs.
Q76. Heirs receive money in case of death.
Q77. Type of savings scheme/Money (plus interest) is returned when policy matures.
Q78. Other _____
Q79. Don't know.

Instruction: Questions Q80 to Q84 should be filled out by observing the respondent's home and clothing.

Q80. What type of house is this:

Single family home	1
Joint ownership	2
Rented home	3
Employer owned	4
Other (specify) _____	9

Q81. Wall construction

Mud walls	1
Concrete bricks	2
Other (specify) _____	9

Q82. Roof material

Thatched	1	Clay tile	4
Corrugated metal (tin)	2	Other (specify) _____	9
Concrete	3		

Q83. Floor material

Mud/cow dung floor	1
Cement floor	2
Tiled floor	3

Q84. Judging only from the appearance of the house, the way people are dressed, and the way the house is arranged, is this household:

Poorer than average	1
About Average	2
Better-off than average	3
Unable to say	9

Instructions: *The following questions are to be asked of the respondent.*

Q85. Do you have a ration card?

Yes	1	
No	2	▸ **GO TO Q87**

Q86. What color is your ration card?

Pink	1
Beige	2
White	3

Q87. What kind of toilet is used by members of your household?

Open toilet	1
Public toilet	2
Private toilet	3
Other	9

Q88. Do you have electricity connection?

Yes	1
No	2

Q89. What is the major source of drinking water for members of your household?

Piped into residence	01	River, spring, surface water (lake, pond)	05
Piped into yard or plot	02	Tanker truck, other vendor	06
Public tap	03	Rain-water	07
Well	04	Other	09

How many of the following are owned by your household members? (*Write '99' for any value greater than, or equal to 99*)

Q90. Other dwellings besides this one
Q91. Land for house ___ acres/vigha/guntha
Q92. Goats
Q93. Cows
Q94. Oxen
Q95. Buffalo
Q96. Televisions
Q97. Bicycles
Q98. Scooters/Mopeds/Motorcycles
Q99. Carts
Q100. Four-wheeled or Three-wheeled Vehicles (Cars/Jeeps/Trucks/Tractors)
Q101. Handpump
Q102. Refrigerator or freezer

Q103. Do you own agricultural land?

Yes	1	
No	2	▸ GO TO Q105
Mortgaged	3	

Q104. How much land do you own? ___ acres/vigha/guntha

Q105. Usually, how many meals are eaten by the adults in your household in one day? ___

Q106. On days when you don't fast, how much to you spend on food? ___ Rs

Non-Insured Households ONLY

Q107. Why have you or your household members not joined a medical/illness prepayment scheme? (More than one answer is possible)

Too costly	01
Husband, or other household member chose not to	02
Superstition (prepayment may lead to poor health or death)	03
Not a member of the dairy co-operative	04
Refused by insurer	05
High costs of health care are not a problem	06
Prepayment schemes are not easily available	07
Because these schemes do not cover the whole family	08
Because we are illiterate	09
Because they don't offer 100% reimbursement	10
I am not aware of these schemes	11
Other (specify) _____	12
Don't know	99

Tribhuvandas Foundation Households ONLY

Q108. According to the records of the Tribhuvandas Foundation, your household has membership in this organization. Were you, personally, aware of this?

Yes	1
No	2

Q109. As far as you know, who can become a member of Tribhuvandas?

Dairy Co-operative members	1
Anyone	2
Other (specify) _____	8
Don't know	9

Q110. How does a household join Tribhuvandas?

Automatic for Dairy co-op members	1
Pay 10 Rupees	2
Pay some other amount of money (specify) _____	3
Other (specify) _____	8
Don't know _____	9

Q111. What are the benefits of being a member of Tribhuvandas? (More than one answer possible)

Charity – the money goes to a good cause	1
Free/reduced cost medicines	2
Free/reduced cost care from the VHW	3
Free/reduced cost outpatient doctor visits	4
Free/reduced cost hospital care	5
Other (specify) _____	8
Don't know	9

Q112. What do you feel is the most important benefit of belonging to Tribhuvandas?

_____

Q113. In fact, membership in Tribhuvandas means that your family has paid 10 rupees yearly membership fee. If you do not make use of the benefits of TF during a year, some other household may get the benefit of your ten rupees. How do you feel about this?

No problem – it is a good cause	1
No problem – insignificant amount of money	2
I should get money back	3
Other (specify) _____	4
Don't know	5

Q114. How do you feel the Tribhuvandas scheme could be improved? (more than one answer possible)

Reduced membership fee	1
Increased membership fee	2
Improved health care in village	3
Improved health care at sub-centres	4
Improved hospital care	5
More health education	6
People should be made aware of the scheme	7
Other (specify) _____	8
Don't know	9

SEWA Households ONLY

Q115. According to the records of SEWA, at least one member of your household belongs to the SEWA insurance scheme. Were you, personally, aware of this?

Yes	1
No	2

Q116. As far as you know, who can purchase insurance from SEWA?

Women only	1
Women aged 18 to 58 only	2
Anyone	3
Other (specify) _____	8
Don't know	9

Q117. How does someone become insured by SEWA?

Pay 65 Rs or 80 Rs per year	1
Pay fixed deposit of 500 or 700 Rs	2
Pay some other amount of money (specify) _____	3
Other (specify) _____	8
Don't know _____	9

Q118. What are the benefits of being insured by SEWA? (More than one answer possible)

Charity – the money goes to a good cause	1
Reimbursement after death	2
Reimburses for loss of house or working capital	3
Covers the costs of medical care	4
Other (specify) _____	8
Don't know	9

Q119. What do you feel is the most important benefit of having SEWA insurance?

_____

Q120. In fact, to be insured by SEWA, a person must pay a certain amount per year (between 65 and 80 Rs) or must deposit a fixed amount of money one time only (500 or 700 Rs). If you do not make use of the benefits of SEWA during a year, some other person may get the benefit of your membership fee or deposit. How do you feel about this?

No problem – it is a good cause	1
No problem – insignificant amount of money	2
I should get money back	3
Other (specify) _____	4
Don't know	5

Q121. How do you feel the SEWA scheme could be improved? (more than one answer possible)

Allow all family members to join	1
Cover all diseases	2
Cover 100% of costs	3
Allow the old women to join	4
Reduce membership fees	5
More health education	6
Make people more aware of the scheme	7
Other (specify) _____	8
Don't know	9

Q122. Time Interview Completed: __:__ Morning/Afternoon/Evening

Q123. How reliable do you feel these responses are?

All reliable	1
Mostly reliable	2
Partially reliable	3
Unreliable	4

Q124. Degree of co-operation

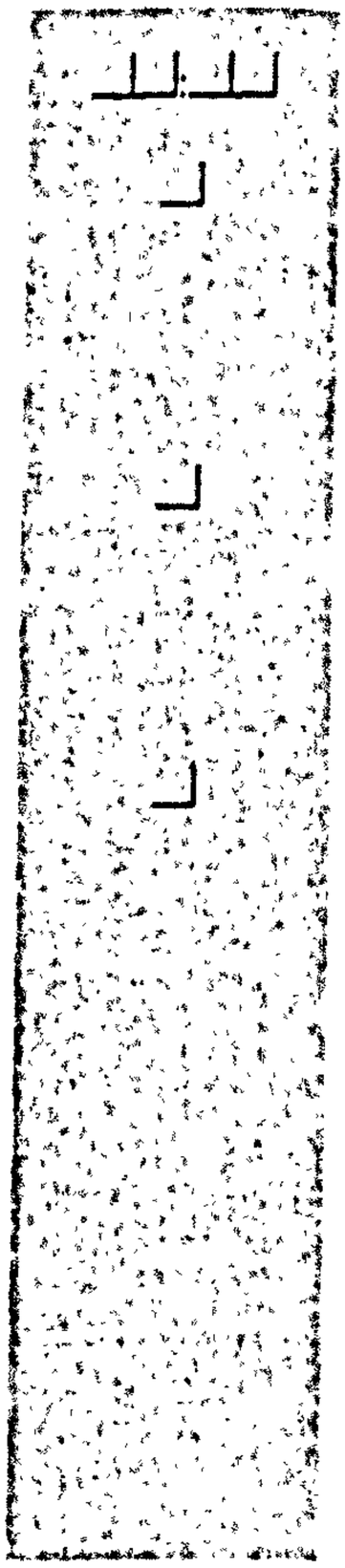
Very good	1
Good	2
Not so good	3
Not good at all	4

Q125. Did the person interviewed understand the questions?

No difficulty	1
Little difficulty	2
Much difficulty	3
Great difficulty	4

General Comments:

Checked by Interviewer (Signature): _____



APPENDIX 3. THE ECONOMIC STATUS INDEX (ESI) AND ITS RELIABILITY

No information was collected on household income or expenditures. An economic status index is constructed based on household assets, allowing the weights of these assets to be determined by the statistical procedure of principal components (Filmer and Prichett 1998). Twenty-two of these asset variables are used, which can be grouped into three types. First, eleven discrete variables describing farm/household assets (goat, cow, ox, buffalo, television, bicycle, motorised two-wheeler, pull-cart, motorised three/four-wheeler, handpump, refrigerator). Second, eight discrete variables related to the place of residence (ownership of house, concrete walls, concrete/tile roof, cement/tiled floor, private toilet, electricity connection, water from public tap, water piped into yard/residence). Third, three discrete variables about whether the household owned buildings other than the house, owned other residential land; and owned agricultural land.

Economic status index (Table A3.1). The mean value of the index was zero by construction. The standard deviation was 1.95. Since all the asset variables took only the values of zero or one, the weights were easily interpreted. A move from 0 to 1 changed the index by scoring factor/standard deviation. A household that owned a refrigerator or freezer had an asset index higher by 1.29 than one that did not. Obtaining drinking water from a public tap (as opposed to various private sources) lowered the index by 0.38.

Table A3.1: Scoring factors and summary statistics for variables entering the computation of the first principal component

	Scoring factor	Mean	Standard deviation	Scoring factor/ standard deviation
Own house	0.036	0.944	0.230	0.16
Concrete walls	0.337	0.452	0.498	0.68
Concrete/clay tile roof	0.130	0.597	0.491	0.27
Cement/tiled floor	0.387	0.361	0.481	0.80
Private toilet/latrine	0.383	0.214	0.410	0.93
Electricity connection	0.282	0.667	0.471	0.60
Water from public tap	-0.129	0.133	0.340	-0.38
Water piped to yard/residence	0.242	0.487	0.500	0.48
Own other dwellings	0.079	0.172	0.378	0.21
Own residential land	-0.008	0.133	0.339	-0.02
Own goats	-0.056	0.060	0.237	-0.23
Own cows	0.118	0.101	0.301	0.39
Own oxen	0.031	0.158	0.365	0.09
Own buffalo	-0.036	0.571	0.495	-0.07
Own television	0.317	0.277	0.448	0.71
Own bicycle	0.167	0.364	0.481	0.35
Own motorised two-wheeler	0.286	0.075	0.263	1.09
Own pull-cart	0.175	0.034	0.182	0.96
Own motorised three/four-wheeler	0.164	0.044	0.206	0.80
Own handpump	0.126	0.033	0.180	0.70
Own refrigerator/freezer	0.324	0.068	0.251	1.29
Own agricultural land	0.057	0.614	0.487	0.12
Economic status index		**0.000**	**1.953**	

Reliability of the asset index. Table A3.2 compares the average asset ownership across the ESI quintiles. The index produced sharp differences across quintiles for most assets: for example, television ownership was 2% among the poorest quintile and 79% among the wealthiest. The separation was cleanest for the variables related to the place of residence (for example, concrete walls, private toilet) and was least clean for certain farm assets (goats, cows, oxen, buffalo, handpumps) and for ownership of residential and agricultural land.

Table A3.2: Percent of households with assets, by ESI quintile

	1 Poorest	2	3	4	5 Wealthiest
Own house	88%	91%	88%	95%	99%
Concrete walls	10%	21%	62%	85%	97%
Concrete/clay tile roof	37%	54%	56%	44%	82%
Cement/tiled floor	0%	10%	44%	90%	97%
Private toilet/latrine	0%	3%	9%	52%	95%
Electricity connection	18%	63%	90%	100%	100%
Water from public tap	28%	8%	14%	9%	1%
Water piped to yard/residence	6%	43%	59%	80%	89%
Own other dwellings	9%	14%	19%	25%	29%
Own residential land*	12%	11%	16%	12%	12%
Own goats*	8%	4%	6%	2%	4%
Own cows*	6%	13%	7%	13%	24%
Own oxen*	11%	21%	13%	10%	16%
Own buffalo*	51%	60%	52%	40%	46%
Own television	2%	5%	20%	51%	79%
Own bicycle	17%	30%	38%	52%	65%
Own motorised two-wheeler	0%	0%	2%	4%	37%
Own pull-cart	0%	0%	1%	3%	10%
Own motorised three/four-wheeler	0%	1%	1%	5%	11%
Own handpump*	0%	2%	6%	3%	8%
Own refrigerator/freezer	0%	0%	0%	1%	57%
Own agricultural land*	56%	57%	57%	49%	70%

The robustness of the index was tested by removing the seven variables marked with an asterisk in Table A3.2 (chosen as they were not "cleanly" related to ESI quintile). Households were divided into quintiles based on the new (15 variable) index, and the old (22 variable) and new indices were compared (Table A3.3). No household in the bottom quintile of the index using all 22 variables was in any of the top three quintiles by the reduced new index. Similarly, no household in the top quintile of the index using all variables was in the bottom two quintiles by the reduced index. Comparison of the asset index with the interviewer's assessment of wealth and with daily expenditures on food suggests strong correlation (Table A3.3).

Table A3.3: Comparison of the full (22 variable) index with the reduced (15 variable) index and other estimators of wealth

	Quintiles of full (22 variable) index					
	1	2	3	4	5	Total
Quintiles of reduced (15 variable) index						
1	19.30	1.25	0.13	0.00	0.00	20.68
2	0.81	17.42	1.45	0.00	0.00	19.68
3	0.00	1.23	17.31	1.24	0.25	20.02
4	0.00	0.00	1.12	17.66	0.92	19.71
5	0.00	0.00	0.00	1.30	18.62	19.92
Wealth, as judged by interviewer						
Poorer than average	10.17	7.23	6.43	4.03	0.00	27.87
About average	9.42	11.09	11.14	12.84	10.54	55.03
Better off than average	0.51	1.57	2.44	3.33	9.25	17.10
Color of ration card						
White (<11,000 Rs per annum)	12.16	11.39	10.83	8.83	6.08	49.30
Beige (>11,000 Rs per annum)	1.26	3.23	3.28	3.53	3.57	14.87
Pink (topmost income level)	2.59	2.64	3.63	5.86	9.69	24.40
No ration card	4.10	2.64	2.28	1.98	0.44	11.43
How much do you spend daily on food? (quintiles)						
1 & 2	10.59	12.03	8.50	8.71	3.51	43.34
3	4.20	4.47	4.35	3.39	1.17	17.57
4	3.69	2.15	4.48	5.86	6.02	22.20
5	1.73	0.83	2.79	2.35	9.19	16.89
Amount spent on food per person, per day (quintiles)						
1	5.03	5.27	4.00	3.95	1.80	20.04
2	6.37	7.22	5.10	5.82	3.77	28.29
3	2.00	2.40	2.68	2.43	2.25	11.76
4	4.99	3.98	5.91	6.39	3.88	25.16
5	1.82	0.61	2.42	1.72	8.19	14.75

APPENDIX 4: LIST OF SURVEYED VILLAGES, INCLUDING INFLATION FACTORS

Serial Number	Village name	Taluka	Population 1991 Census	Number of Households Number	Source	SEWA Members	TF Households	Weights (inflation factors) SEWA HHs	TFHHs	Control HHs
SEWA Villages										
01	Jadavpura	Nadiad	NA	168	Voters List	75	-	33	-	41
02	Bedva	Anand	4,470	975	PDS	66	-	29	-	396
03	Malataj	Petlad	4,624	778	Voters List	8	-	9	-	1,441
	Sojitra	Petlad	14,850	2551	Voters List	13	-			
04	Sundalpura	Anand	6,760	716	Voters List	20	-	9	-	303
05	Valipura	Anand	NA	500		21	-	12	-	424
	Dhbripura	Anand	NA	500		6	-			
06	Asarma	Borsad	2,714	392	Voters List	12	-	6	-	166
07	Hadgood	Anand	6,359	1,139	1991 Census	24	-	10	-	486
08	Dabhsar	Thasra	1,031	166	Voters List	24	-	10	-	62
09	Davapura	Nadiad	NA	113	PDS	29	-	13	-	37
10	Laxmipura	Nadiad	NA	42	PDS	21	-	9	-	9
Tribhuvandas Villages										
11	Navi Aral	Kapadvanj	NA	159	Voters List	-	118	-	438	152
12	Suki/Lotiya	Kapadvanj	605	160	1991 Census	-	90	-	334	260
13	Jashwantpura/Khadal	Kapadvanj	2,139	585	PDS	-	226	-	839	1,333
14	Ratankuva	Balasinor	1109	181	Voters List	-	110	-	409	264
15	Rampura	Balasinor	873	94	PDS?	-	60	-	223	126
16	Bhumapura	Mehmedabad	NA	179	1998 Voters List	-	206	-	765	52
17	Khambhali	Mehmedabad	2,218	269	Voters List	-	185	-	687	312
18	Mangalpur	Nadiad	1,616	315	PDS	-	74	-	275	895
19	Kharenti	Matar	1,550	245	Voters List	-	187	-	695	215
20	Limbasi	Matar	6,510	1,064	Voters List	-	477	-	1,772	2,180
Joint Villages										

21	Rahtalav	Anand	1692	342	PDS	35	86	14	34	44
22	Bharoda	Anand	4006	786	1991 Census	45	29	22	59	186
	Bhatpura	Anand	2,084	347	1991 Census	9	118			
23	Lalpura	Anand	NA	150	PDS	13	121	16	65	40
	Rampura	Anand	NA	250	Voters List	26	42			
24	Pratappura	Anand	2,836	443	PDS	22	80	9	32	68
25	Sarsa	Anand	13,051	2,369	1991 Census	49	735	20	294	317
26	Dantali	Nadiad	2,124	371	PDS	1	263	8	169	337
	Vaso	Nadiad	NA	939	PDS	10	NA			
	Bamroli	Nadiad	5,527	819	PDS	9	159			
27	Ardi	Anand	3,189	480	Voters List	21	246	8	98	43
28	Kosam	Thasra	1,156	273	PDS	56	159	22	64	12
29	Haijarabad	Matar	1,725	617	Voters List	17	102	12	149	136
	Khumarvad	Mehmedabad	3,936	466	Voters List	12	271			
30	Isarama	Petlad	2,245	435	Voters List	17	NA	9	161	343
	Palaj	Petlad	7,176	1,707	1991 Census	6	402			

APPENDIX 5: QUALITATIVE INTERVIEW SCHEDULES

Interviews with beneficiaries (including focus-group discussions)

- Has anyone in the household been hospitalised recently (within the last year)?
- How did household cope with costs of hospitalisation?
- Is respondent familiar with the concept of insurance? Health insurance?
- Is anyone in household enrolled in an insurance scheme? If so, which one? Was reimbursement provided for any of the hospitalisations described?
- What should a health insurance scheme provide? More specifically, for SEWA and TF members, what should these schemes provide? Why did they join TF or SEWA?
- What was their experience in using SEWA or TF (strengths and weaknesses of the scheme)? What factors account for the scheme's success, or lack of it?
- Will they continue to participate in the scheme, or will they drop out? Why?

Interviews with health care providers

- What type of health care do they provide (outpatient vs. inpatient, allopathic vs. traditional)? From what geographical areas and socio-economic groups do they draw their clientele? What are the prices charged for some procedures that they commonly perform?
- Is interviewer familiar with the concept of insurance? Health insurance?
- Does the respondent have health insurance?
- Is it common for the respondent's patients to have insurance?
- Is respondent familiar with SEWA or TF schemes?
- What is the nature of their interaction with scheme beneficiaries and with scheme administrators, if any? What is their experience of the scheme, positive and negative? What, if any, benefits do they think the scheme provides?
- What factors account for the scheme's success, or lack of it?
- Are there things that the scheme should be achieving/providing that it currently is not?

- Are the insured (and more specifically, the SEWA or TF insured) treated differently? Prove for differences in the quality of health care provided, whether there are differences in referral mechanisms, and differences in cost and billing?

Interviews with scheme administrators

- How is the respondent involved in administration of the scheme? For how long have they been working with SEWA/TF, and how have their roles/responsibilities changed with time?
- Have them describe the design and management of the scheme. How do people join in the scheme?
- What does insurance mean to them?
- What is the nature of their interaction with beneficiaries and health care providers?
- What is their experience of the scheme, positive and negative?
- What factors account for the scheme's success, or lack of it?
- Are there things that the scheme should be achieving/providing that it currently is not?

APPENDIX 6: HOUSEHOLD-LEVEL ANALYSES OF UTILISATION AND EXPENDITURE, TF

Table A6.1: Independent variables included in the household-level regression analyses

Variables	Model 1	Model 2	Model 3
Characteristics of the household			
TF = 1 if household paid TF membership fee for the current year, 0 if not		✓	✓
ESI1 to ESI5 = quintiles of economic status index, this is an approximation of household wealth based on assets, ESI1 being the poorest and ESI 5 the wealthiest (these variables are exhaustive, ESI1 is left out of the models)	✓	✓	✓
HINDU = 1 if Hindu religion, 0 if Muslim or Christian	✓	✓	✓
BKWDCASTE = 1 if scheduled caste, scheduled tribe and other 'backward castes', 0 if castes that have *not* been identified by government as 'backward' (Bhakshipanch, Brahmin, Patel, Shah, etc.)	✓	✓	✓
HHSIZE1 = 1 if 1 to 2 people in HH HHSIZE2 = 1 if 3 to 4 people in HH HHSIZE3 = 1 if 5 to 9 people in HH HHSIZE4 = 1 if >=10 people in HH (these variables are exhaustive, HHSIZE1 is left out of the models)	✓	✓	✓
Characteristics of individuals (averaged for HH)			
PropFEMALE = continuous variable (0 to 1) proportion of household members that are female	✓	✓	✓
AvAGE1 = 1 if average age in household is 10 to <20 years AvAGE2 = 1 if average age in household is 20 to <30 years AvAGE3 = 1 if average age in household is 30 to <40 years AvAGE4 = 1 if average age in household is 40+ years (these variables are exhaustive, %AGE1 is left out of the models)	✓	✓	✓
PropLITERATE = continuous variable, proportion of household adults (>=15 years) that can read and write a simple letter	✓	✓	✓
PropMARRIED = continuous variable, proportion of household adults (>=15 years) that are married	✓	✓	✓
PropFARMER = continuous variable, proportion of household adults (>=15 years) engaged in farming	✓	✓	✓
AvNUMBACUTE = average number of acute illness episodes reported during the last 30 days (ranged from 0 to 3), intended to control for general level of health. Included as a proxy, based on the hypothesis that those who are more sickly will have experienced illness episodes within the last month.	✓	✓	✓
Characteristics of the household head			
HdFEMGEND = 1 if female, 0 if male	✓	✓	✓
HdAGE1 = 1 if 0 to 4 years of age HdAGE2 = 1 if 5 to 9 years of age HdAGE3 = 1 if 10 to 19 years of age HdAGE4 = 1 if 20 to 29 years of age HdAGE5 = 1 if 30 to 39 years of age HdAGE6 = 1 if 40 to 49 years of age HdAGE7 = 1 if 50 to 59 years of age HdAGE8 = 1 if >60 years of age (these variables are exhaustive, HdAGE1 is left out of the models)	✓	✓	✓

HdLITERATE = 1 if person can read and write a simple letter, 0 if not	✓	✓	✓
HdMARRIED = 1 if married, 0 if never married, widower, divorced, separated, or other	✓	✓	✓
HdFARMER = 1 if primary occupation is farmer (including dairy farmer) HdDAILYWAGE = 1 if unskilled worker being paid daily wage (agricultural or factory worker) HdDOMESTIC = 1 if primary occupation is domestic work/housework HdNOT-ABLE = Not able to work (e.g. elderly, child, mentally or physically disabled) HdOTHERWORK = 1 if other than farmer, dailywage, domestic or notable (e.g. presently studying, government employment, self-employed, trained professional, skilled daily wages, unskilled monthly salary, military/police, beggar, unemployed but looking for work, unemployed but not looking for work, employee of co-operative sector) (these variables are exhaustive, OTHERWORK is left out of the models)	✓	✓	✓
HdNUMBACUTE = number of acute illness episodes reported during the last 30 days (ranged from 0 to 3), intended to control for general level of health. I include this variable as a proxy, based on the hypothesis that those who are more sickly will have experienced illness episodes within the last month.	✓	✓	✓
Characteristics of the hospitalisation			
PUBLIC = 1 if ALL hospitalizations government or ESIS hospital PRIVATE = 1 if ALL private for-profit hospital NONPROF = 1 if ALL private-non-profit hospital MIXEDHOSP = 1 if more than one type of hospital (these variables are exhaustive, PUBLIC is left out of the models)			✓
SHORT = 1 if AVG duration 0 to 3 days hospitalised MEDIUM = 1 if AVG duration 4 to 7 days hospitalised LONG = 1 if AVG duration > 7 days hospitalised (these variables are exhaustive, SHORT is left out of the models)			✓
OBS/GYN = 1 if cause of ALL hospitalizations was pregnancy, delivery or family planning, 0 if other			✓

Table A6.2: Sample characteristics at household level

Variable	TF	NON-MEM
Number of households	**280**	**414**
Mean ESI	**0.57**	**0.26**
Cat: Quintiles of ESI		
% in 1st quintile	**16.6**	**26.6**
% in 2nd quintile	**27.3**	**15.7**
% in 3nd quintile	**13.7**	**20.1**
% in 4nd quintile	**21.9**	**20.7**
% in 5nd quintile	**20.6**	**16.8**
Religion		
% Hindu	**99.2**	**90.5**
% Muslim	**0.8**	**6.0**
% Christian	**0.0**	**3.5**
% ST, SC, or other "backward" caste	**42.5**	**41.0**
Mean number of hh members	**5.34**	**5.04**
Cat: Number of hh members		
% 1-2	**6.6**	**14.6**
% 3-4	**32.9**	**27.8**
% 5-9	**54.0**	**54.4**
>% =10	**6.6**	**3.2**
"Mean" household characteristics		
% Female	**46.4**	**47.3**
Mean age	**26.78**	**33.41**
Cat: Age		
% 10-<20	**20.0**	**7.5**
% 20-<30	**49.8**	**44.2**
% 30-<40	**24.1**	**27.1**
% 40+	**6.1**	**21.2**
% Adults literate	**63.0**	**59.0**
% Adults married	**79.8**	**72.0**
% Adults farming	**33.3**	**16.3**
Characteristics of the household head:		
% Female	**5.0**	**9.4**
Mean age	**42.80**	**48.02**
Cat: Age		
% 20-<30	**13.0**	**6.9**
% 30-<40	**23.8**	**16.0**
% 40-<50	**31.0**	**29.9**
% 50-<60	**23.4**	**24.3**
% 60+	**8.8**	**22.9**
% Literate	**74.2**	**68.8**
% Married	**91.5**	**88.0**
% Farming	**62.9**	**30.8**

Table A6.3: Hospital utilisation and expenditure per household by TF coverage

	TF (n=280)		NON-MEM (n=414)
Hospital utilisation			
Total hospitalisations reported	**77**		**135**
Households with >0 hospitalisations, 1 year	**60**		**111**
Probability of >=1 hospitalisation per household	**0.177**	**	**0.284**
Mean total hospital expenditures (per HH with hospitalisation)	**4,075**	***	**6,661**

Table A6.4: Regression results for Equation 1, the odds of a household belonging to TF based on socio-demographic variables: logit model

	Odds ratios (t-statistics)				
	Mean Model (n=693)			Head Model (n=691)	
ESI2	**3.092**	**	ESI2	**3.146**	**
	(2.250)			(2.530)	
ESI3	**1.362**		ESI3	**1.270**	
	(1.280)			(0.730)	
ESI4	**3.169**	**	ESI4	**2.249**	
	(2.190)			(1.390)	
ESI5	**3.068**	**	ESI5	**2.833**	*
	(2.820)			(1.890)	
HINDU	**7.589**	**	HINDU	**9.157**	**
	(2.310)			(2.220)	
BKWDCASTE	**1.346**		BKWDCASTE	**1.774**	**
	(1.040)			(2.590)	
HHSIZE2	**0.603**		HHSIZE2	**0.874**	
	(-1.210)			(-0.440)	
HHSIZE3	**1.094**		HHSIZE3	**1.929**	*
	(0.180)			(1.760)	
PROPFEMALE	**0.775**		HdFEMALE	**0.689**	
	(-0.380)			(-0.710)	
AvAGE2	**0.414**	**	HdAGE5	**0.802**	
	(-2.530)			(-0.430)	
AvAGE3	**0.287**	***	HdAGE6	**0.431**	*
	(-3.100)			(-1.950)	
AvAGE4	**0.073**	***	HdAGE7	**0.329**	**
	(-2.770)			(-2.220)	
			HdAGE8	**0.168**	***
				(-3.910)	
PROPLITERATE	**1.199**		HdLITERATE	**1.027**	
	(1.470)			(0.070)	
PROPMARRIED	**1.156**		HdMARRIED	**0.769**	
	(1.380)			(-0.390)	
PROPFARMER	**2.785**	***	HdFARMER	**4.769**	***
	(3.070)			(6.390)	
AvNUMBACUTE	**1.498**	**	HdNUMBACUTE	**1.071**	
	(2.550)			(0.180)	
Adjusted Wald Test, F =	**8**		Adjusted Wald Test, F =	**117**	
P-value =	**0.055**		P-value =	**0.009**	
Percent of predictions correct =	**63.5%**		Percent of predictions correct =	**64.4%**	
F-test for four ESI variables =	**1.9**		F-test for four ESI variables =	**2.7**	
P-value =	**0.162**		P-value =	**0.073**	

* 10% significance level; ** 5% significance level; *** 1% significance level

•

Table A6.5: Regression results for Equation 2, the odds of one or more hospitalisation in the household within the last year: logit model

	Odds ratios (t-statistics)				
	Mean Model (n=693)			Head Model (n=691)	
TF	**0.472**	*	TF	**0.467**	*
	(-2.000)			(-2.040)	
ESI2	**1.234**		ESI2	**1.069**	
	(0.320)			(0.100)	
ESI3	**0.549**		ESI3	**0.486**	
	(-1.420)			(-1.460)	
ESI4	**1.475**		ESI4	**1.150**	
	(0.630)			(0.250)	
ESI5	**1.345**		ESI5	**0.971**	
	(0.570)			(-0.070)	
HINDU	**3.915**	*	HINDU	**4.871**	*
	(1.850)			(2.030)	
BKWDCASTE	**1.102**		BKWDCASTE	**1.248**	
	(0.450)			(0.950)	
HHSIZE2	**3.741**	**	HHSIZE2	**4.225**	***
	(2.570)			(3.050)	
HHSIZE3	**2.269**		HHSIZE3	**2.477**	
	(1.270)			(1.520)	
PROPFEMALE	**1.336**		HdFEMALE	**0.484**	
	(0.230)			(-1.140)	
AvAGE2	**1.725**		HdAGE5	**0.518**	
	(0.960)			(-1.410)	
AvAGE3	**2.833**		HdAGE6	**1.059**	
	(1.320)			(0.190)	
AvAGE4	**1.485**		HdAGE7	**0.812**	
	(0.560)			(-0.690)	
			HdAGE8	**1.184**	
				(0.570)	
PROPLITERATE	**0.546**	*	HdLITERATE	**1.182**	
	(-1.740)			(0.470)	
PROPMARRIED	**2.147**		HdMARRIED	**0.660**	
	(0.870)			(-0.610)	
PROPFARMER	**0.942**		HdFARMER	**1.059**	
	(-0.190)			(0.170)	
AvNUMBACUTE	**1.306**		HdNUMBACUTE	**2.409**	**
	(0.410)			(2.460)	
Adjusted Wald Test, F =	**166**		Adjusted Wald Test, F =	**348**	
P-value =	**0.006**		P-value =	**0.042**	
Percent of predictions correct =	**74.7%**		Percent of predictions correct =	**73.8%**	

* 10% significance level; ** 5% significance level; *** 1% significance level

Table A6.6: Regression results for Equation 3, the net annual hospital expenditures per household where there was one or more hospitalisation: log-linear model

	Coefficients (*t*-statistics)				
	Mean Model (n=171)			Head Model (n=171)	
TF	**0.554** (1.460)		TF	**0.587** (1.630)	
ESI2	**0.532** (1.210)		ESI2	**0.419** (0.940)	
ESI3	**0.772** (1.370)		ESI3	**0.494** (0.790)	
ESI4	**1.292** (2.240)	**	ESI4	**0.910** (1.600)	
ESI5	**1.397** (2.020)	*	ESI5	**1.104** (2.060)	*
HINDU	**1.144** (2.090)	*	HINDU	**1.460** (2.450)	**
BKWDCASTE	**0.012** (0.060)		BKWDCASTE	**0.118** (0.480)	
HHSIZE2	**0.700** (2.370)	**	HHSIZE2 (continuous in adult mod)	**0.492** (2.230)	**
HHSIZE3	**0.469** (1.380)		HHSIZE3	**0.352** (1.240)	
PROPFEMALE	**-0.300** (-0.340)		HdFEMALE	**-0.299** (-0.870)	
AvAGE2	**0.427** (0.810)		HdAGE5	**-0.500** (-0.580)	
AvAGE3	**0.021** (0.040)		HdAGE6	**-0.439** (-0.660)	
AvAGE4	**0.892** (1.690)		HdAGE7	**-0.470** (-0.670)	
			HdAGE8	**-0.608** (-1.050)	
PROPLITERATE	**-1.591** (-2.100)	*	HdLITERATE	**-0.639** (-1.450)	
PROPMARRIED	**-0.264** (-0.390)		HdMARRIED	**0.258** (0.380)	
PROPFARMER	**-0.408** (-0.770)		HdFARMER	**-0.516** (-2.060)	*
AvNUMBACUTE	**-1.147** (-1.500)		HdNUMBACUTE	**-0.731** (-3.040)	***
PUB	**-0.325** (-0.680)		PUB	**-0.127** (-0.210)	
PRIV	**0.677** (2.830)	**	PRIV	**0.751** (1.990)	*
MEDIUM	**1.048** (3.810)	***	MEDIUM	**1.049** (3.710)	***
LONG	**1.724** (6.000)	***	LONG	**1.693** (5.910)	***
OBS/GYN	**-1.074** (-4.310)	***	OBS/GYN	**-1.268** (-2.640)	**
Adjusted Wald Test, F =	**12.060**		Adjusted Wald Test, F =	**32**	
P-value =	**0.223**		P-value =	**0.138**	
R-squared =	**47.16%**		R-squared =	**44.08%**	
F-test for four ESI variables =	**1.5**		F-test for four ESI variables =	**3.4**	
P-value =	**0.267**		P-value =	**0.037**	

* 10% significance level; ** 5% significance level; *** 1% significance level

APPENDIX 7: REGRESSION RESULTS FOR EQUATION 2, THE PROBABILITY OF BEING HOSPITALISED WITHIN THE LAST YEAR, RESTRICTED TO HOUSEHOLD HEADS: LOGIT MODEL

	Odds ratios (t-statistics)				
	Full Model (n=691)			Best Fit (n=692)	
TF	**0.614**		TF	**0.683**	
	(-0.630)			(-0.520)	
ESI2	**0.449**		ESI2	**0.513**	
	(-0.600)			(-0.570)	
ESI3	**0.227**		ESI3	**0.347**	
	(-1.560)			(1.450)	
ESI4	**1.008**		ESI4	**1.298**	
	(0.010)			(0.510)	
ESI5	**0.134**		ESI5	**0.259**	*
	(-1.580)			(-1.920)	
HINDU	**62.196**	***	HINDU	**73.445**	***
	(2.950)			(3.520)	
BKWDCASTE	**0.508**	*	BKWDCASTE	-	
	(-1.930)			-	
HHSIZE2	**3.220**	***	HHSIZE2	**2.840**	***
	(3.030)			(3.660)	
HHSIZE3	**9.407**	**	HHSIZE3	**7.360**	**
	(2.560)			(2.310)	
FEMALE	**0.036**	**	FEMALE	**0.242**	
	(-2.700)			(-1.200)	
AGE5	**1.736**		AGE (cont)	**0.993**	
	(0.460)			(-0.530)	
AGE6	**1.580**			-	
	(0.570)			-	
AGE7	**1.467**			-	
	(0.980)			-	
AGE8	**0.254**			-	
	(-1.200)			-	
LITERATE	**1.388**		LITERATE	-	
	(0.330)			-	
MARRIED	**0.289**		MARRIED	**0.304**	
	(-1.070)			(-1.350)	
FARMER	**1.188**		FARMER	-	
	(0.140)			-	
DAILYWAGE	**0.580**		DAILYWAGE	-	
	(-0.410)			-	
DOMESTIC	**27.542**		DOMESTIC	-	
	(1.420)			-	
NOT-ABLE	**5.085**		NOT-ABLE	-	
	(0.980)			-	
NUMBACUTE	**0.811**		NUMBACUTE	**0.771**	
	(-0.210)			(-0.290)	
Adjusted Wald Test, F =	**37**		Adjusted Wald Test, F =	**27**	
P-value =	**0.128**		P-value =	**0.000**	
Percent of predictions correct =	**94.5%**		Percent of predictions correct =	**94.5%**	

* 10% significance level; ** 5% significance level; *** 1% significance level

APPENDIX 8: ANALYSIS OF HOUSEHOLD REINTERVIEWS

The purpose of this appendix is to compare responses between first and second interviews among those households that were twice surveyed.

Non-sampling errors are due to variations between a given response and the true answer. They result from biases introduced at any stage of the survey process – survey design, questionnaire development, field data collection, data processing analysis or reporting (Fabricant 1992). This analysis looks at the reliability of survey data (i.e. the recording of the same answer to the same question on two different occasions) as an indicator of non-sampling error. Differences from one interview to the next may result if, for example: the respondent was different, and the two respondents had different opinions about the correct answer; the respondent was unsure of the answer and was making a best guess; the question was asked differently from one occasion to the next; the same answer was given on both occasions, but the answer on one occasion was misunderstood, or mis-recorded. Thus, the results of data from households that were re-interviewed will give us some indication as to the reliability of the survey tool, but if it is found to be un-reliable, the analysis may shed little light on the underlying cause of the inconsistency.

It is hypothesised that certain types of questions will have been answered more reliably than others. No hypothetical questions were asked, such as where a person would go for care if they were sick, or how much they would be willing to spend on hospitalisation. Questions about the household's religion, and the marital status of certain individuals, should generally have been easy to answer in an objective manner. However, many of the responses, such as illness of household members, treatments used, and amounts spent, depended on the recall of past events. Others, such as household membership, might be subjective, while still others, such as the possession of livestock, and daily food expenditures, might elicit deliberate false answers.

Methodology

One hundred households were randomly sampled to be interviewed a second time to check the reliability of the survey instrument. Only ninety-five of these households agreed to re-interview. The re-interviews were usually conducted within 24 hours of the first interview, and were always conducted by a different interviewer.

Most variables used in the analysis of the household survey data were either binary or categorical (see Chapters 5 and 8). The reliability of data that were entered into the models as binary or categorical variables are assessed using the following measures (Fabricant 1992):

- *Gross error rate* is the proportion of responses in a given category for which a different response than the original one was given in the re-interview. It is therefore a measure of the reliability of individual responses to a given question, and also of the level of randomly occurring error which would be undetected by a gross comparison of original and re-interview data. Errors which occur randomly tend to weaken or mask the true relationships by introducing anomalies into observed results.
- *Net bias* is the difference between the proportion of answers to a given question falling into a given category in the original interview and in the re-interview. This estimate of error is generally smaller than that indicated by the gross error rate because erroneous responses will cancel out to some extent by randomly falling into different categories. Net bias reveals systematic errors which tend to distort true relationships. This rate can therefore be considered to be a measure of reliability of the question for the entire sample.

Other parameters are used in the analysis of errors for continuous variables (e.g. annual hospital costs per person hospitalised, number of acute illnesses during the last 30 days): the percentage of individual responses which to not match exactly; the mean of the ratio of (value at re-interview-original value)/(original value); and the mean of the absolute value of this ratio.

Results

Certain of the survey questions yielded more reliable responses than others. Questions regarding characteristics of the family (e.g. religion) or specific individuals (e.g. marital status) generally elicited the same response in both interviews. Questions regarding household assets (e.g. type of material used to make walls of the home, whether or not household owned a refrigerator) were less likely to yield reliable results. This may have hampered the validity of the ESI. Questions about the type of hospital used and the cost of hospitalisation were answered with surprising reliability, while the duration of hospitalisation was provided with less reliability.

Table A8.1: Response errors for select binary and categorical variables

	Gross error (%)	Net bias (%)
How often a different interviewer	8%	
Household religion		
Religion	9%	1.05%
Hindu	0%	-1.05%
Number of household members		
1 to 2	0%	-1.05%
3 to 4	7%	0.00%
5 to 9	9%	2.11%
>-10	0%	-1.05%
Concrete walls		
No	17%	-1.05%
Yes	24%	1.05%
Own motorised two-wheeler		
No	1%	-4.21%
Yes	45%	4.21%
Own refrigerator/freezer		
No	1%	-1.05%
Yes	40%	1.05%
Any hospitalizations in the last year?		
Yes	7%	-1.88%
No	3%	1.88%
Literacy		
No	10%	0.77%
Yes	7%	-0.77%
Married		
Yes	1%	-1.07%
No	3%	1.07%
Type of hospital		
Public	0%	0.00%
Private	6%	0.00%
Nonprofit	100%	0.00%
Days hospitalised		
Short	11%	4.00%
Medium	38%	4.00%
Long	0%	-8.00%

Table A8.2: Response errors for select continuous variables

	Not exact match (%)	Mean error (%)	Absolute mean error (%)
Total annual hospital costs per person hospitalised	92%	-6.09%	27.11%
Number of acute illness episodes during the last 30 days.	3%	-*	-*

* These calculations not possible as "original value" was often zero.

APPENDIX 9: SARDAR PATEL INSURANCE SCHEME

TF's hospital referral scheme has been (largely) discontinued, and replaced by the new Sardar Patel insurance scheme, which started operating on January 26th, 2001. This voluntary scheme is open only to members of the dairy co-operatives. In return for a flat-rate premium (Rs. 26 per household per annum) members are entitled to free hospitalisation (no user-fees) at any of eight private-non-profit hospitals affiliated with the scheme. The cost of running the scheme is to be heavily subsidised by contributions from Amul Milk amounting to 3 paise per litre of milk deposited in the participating villages. It is anticipated by scheme administrators that several factors will contribute to much higher rates of utilisation of the new scheme, including: entirely free inpatient care, improved geographic access to hospitals, and a strong IEC campaign (including printed circulars, regional meetings, and training of the VHWs).

APPENDIX 10: LIST OF QUALITATIVE INTERVIEWS CONDUCTED

	Description
Focus-group discussions	
FGD-MIX 1	13 women from one village near Anand; mixed social classes; mixed SEWA members, TF members and non-members
FGD-MIX 2	7 women from one village near Anand; middle- and upper-social classes; mixed SEWA members, TF members and non-members
FGD-MIX 3	12 men from one village near Anand, mixed social classes; mixed SEWA spouses, TF members and non-members
FGD-MIX 4	10 men from one village far from Anand, mixed social classes; mixed SEWA spouses, TF members and non-members
FGD-SEWA	10 women from one village far from Anand, mixed SEWA members and non-members
FGD-TF 1	9 women from one village far from Anand, middle- and upper-social classes, mixed TF members and non-members
FGD-TF 2	14 women from one village near Anand, TF members and non-members
Beneficiary in-depth interviews, TF	
BEN-TF 1	Female member of TF, son hospitalised, member not aware of TF membership, and they have never used Shri Krishna
BEN-TF 2	Female member of TF, was aware of benefits of TF membership, but had never used Shri Krishna, her husband was insured through New India Insurance
BEN-TF 3	Female member of TF, one family member (daughter) had made use of Shri Krishna, but several years before.
BEN-TF 4	Female member of TF, two family members hospitalised within the last year but no use of Shri Krishna, unaware of TF hospital benefits.
BEN-TF 5	Female member of TF, her husband was hospitalised, they used a hospital in Ahmedabad, unaware of the hospital benefits of TF.
BEN-TF 6	Female member, her son had been hospitalised at Shri Krishna (falciparum malaria) and they received 50% discount, but still went into debt to pay the balance
BEN-TF 7	Female member, son (cleft palate) had used Anand sub-centre and Shri Krishna, received discount. As well, two daughters had taken care at private facilities.
BEN-TF 8	Female member, had been treated at TF sub-centre for 1 week for anaemia/weakness (during pregnancy), entirely free of charge.
BEN-TF 9	Female member whose husband was hospitalised at Shri Krishna (no, seemingly not Shri Krishna but the "Mission Hospital" in Anand).
BEN-TF 10	Female member who was hospitalised, but did not use SK. Denies use of TF VHW but was aware of VHW activities.
BEN-TF 11	Female member, two hospitalisations in family, but neither used SK (both were for deliveries). Unaware of the hospital benefits.
BEN-TF 12	Female member, son was 'hospitalised', they used TF facility (as far as I can tell, they used the Anand Sub-centre rather than Shri Krishna Hospital).
BEN-TF 13	Female member, daughter-in-law hospitalised at SK, they received discount due to TF membership.
BEN-TF 14	Female member, used services of TF sub-centre.
Provider in-depth interviews, TF	
PROV-TF 1	Female, TF village health worker.
PROV-TF 2	Female, TF village health worker.
PROV-TF 3	Female, TF field-worker
Administrator in-depth interviews, TF	
ADMIN-TF 1	Male, Chairman, IRMA, and former-Chairman of TF. Female, Chairwoman, TF, Shri Krishna Hospital and National Dairy Development Board.
ADMIN-TF 2	Female, first doctor and manager of TF.
ADMIN-TF 3	Male, current honorary secretary (managing director), TF

ADMIN-TF 4	Female, TF scheme administrator at Shri Krishna Hospital.
Beneficiary in-depth interviews, SEWA	
BEN-SEWA 1	Female, past-member, has not been offered membership for past 2 years.
BEN-SEWA 2	Female current member, not aware of her membership, two household hospitalisations in last year.
BEN-SEWA 3	Female current member, rec'd Rs. 1,200 after hospitalisation for stomach operation, mortgaged land to pay for hospitalisation.
BEN-SEWA 4	Husband of current member (who was also past SEWA worker). He had been hospitalised within last year.
BEN-SEWA 5	Female current member. She, her husband and her son all hospitalised within the last year, but no reimbursement as insurance started after her hospital stay.
BEN-SEWA 6	Female current member, unaware of membership, recently hospitalised but did no seek reimbursement.
BEN-SEWA 7	Female current member, recently hospitalised, insurance claim submitted to SEWA but lost by SEWA worker.
BEN-SEWA 8	Female current member, recently hospitalised, reimbursed Rs. 950 only 15 days after discharge.
BEN-SEWA 9	Female current member. Her two daughters are also members, and both have recently given birth. One has rec'd maternity benefit and the other is still waiting after 3 months.
BEN-SEWA 10	Female current member. Respondent has not been hospitalised recently, but she did receive reimbursement some years ago.
BEN-SEWA 11	Female current member, hospitalised (seemingly more than one year ago) but did not seek reimbursement.
BEN-SEWA 12	Female current member, recently hospitalised, rec'd reimbursement from SEWA without any difficulties.
BEN-SEWA 13	Female current member, recently hospitalised, rec'd reimbursement.
Provider in-depth interviews, SEWA	
PROV-SEWA 1	Female, gynaecologist and lecturer at an ayurvedic hospital.
PROV-SEWA 2	Male, consulting surgeon, private hospital owner.
PROV-SEWA 3	Male, surgeon, private hospital owner.
PROV-SEWA 4	Male, surgeon, private hospital owner.
Administrator in-depth interviews, SEWA	
ADMIN-SEWA 1	Male, doctor who checks all claims for the insurance panel.
ADMIN-SEWA 2	Female, founder of SEWA.
ADMIN-SEWA 3	Female, state-level administrator.
ADMIN-SEWA 4	Female, SEWA village leader (representative).
ADMIN-SEWA 5	Female, SEWA village leader (representative).
Donor in-depth interviews, SEWA	
DONOR-SEWA 1	Female, relatively new to the donor organisation.

APPENDIX 11: ADDITIONAL QUALITATIVE RESULTS

The purpose of this appendix is to present findings from in-depth interviews and focus-group discussions that are not specific either to TF or SEWA.

Transcripts for 51 interviews were available for analysis: seven focus-group discussions, and in-depth interviews with 27 beneficiaries (TF & SEWA), seven health care providers, nine scheme administrators and one external donor. Appendix 10 provides a brief description of each interview subject (basically the information that was available to us before starting the interviews).

Financial determinants of health care seeking

My data show that the perceived cost of health care and the availability of money in the household were important determinants of health care seeking. Perceived cost and ability to pay influenced: (1) whether people sought care; (2) when they sought care – i.e. whether there was any delay in seeking care; (3) the type of care they took; and (4) whether they complied with the prescribed treatment.

Being poor is perceived as a barrier to seeking health care. One elderly respondent explained why her son was not able to take her for cataract surgery:

> *If he doesn't have any income, how can he take me? The money he makes is not enough to run the house, and things are likely to get worse now for lack of rain.*
> *(BEN-SEWA 1)*

The costs of medicines alone may prevent the poor from seeking health care:

> *Respondent 1: Now if the poor cannot have enough money for food, then how can they spend on medicine. In this way, seventy-five percent of the population in the villages suffer and die.*
> *Respondent 2: Yes half of them. They are very poor...*
> *Respondent 3: At present also we cannot get the medicines in government hospital... And if the medicines cost money then... Then I won't buy.*
> *(FGD-MIX 4)*

For others, the cost of transportation poses a major barrier to health care seeking:

> *Respondent 1: We are planning to take him to Civil (a government hospital in Ahmedabad)...*

Respondent 2: We can take him only if we have some arrangement for money.
Respondent 1: Yes. If we have at least one-thousand rupees, then only we can take him. There won't be any other expense, but we need for the (bus/train) fare.
(BEN-TF 6)

The problems associated with paying for health care are perceived by some to be unique to the poor:

Respondent 1: The upper economic group has no problem. Only we poor people have the problem. When we come back home, we feel very depressed and tense, thinking "Now what will we do? From where will we borrow the money? To whom can we go for help?" We keep on thinking about all this after we come home. And the rich have got enough money, so they do not have any problem, and they do not have to worry.
Respondent 2: We have to think whether to eat or spend money for medicine.
(FGD-MIX 1)

Women acknowledged that because men in the household control the finances, it is generally the men who decide whether and where the other family members go for health care:

Interviewer: But suppose someone from your family, may be you or your children, falls ill. Who takes the decision about the hospital in your family?
Respondent 1: Of course, it is decided by men. It is the husband who tells us "you go to this particular hospital" or will say "you come with me, I will take you to the hospital." ...we do not have money with us. We can go only if men give us money.
(FGD-TF 1)

Respondents reported delays in seeking health care for lack of money. A male family member of one respondent delayed in seeking treatment for a serious heart condition:

In between (diagnosis and operation) he stayed at home for two days. He was able to go only after making arrangement for the money.
(sister-in-law of BEN-SEWA 13)

One respondent's husband delayed in seeking treatment for an oral tumour until it was so large and painful as to prevent him from eating:

We did know (there was something wrong) but there was no pain, and he could still eat... He kept on working. What is the use of going to the hospital when there was no arrangement for money? ...Then there came a point when he couldn't even eat and the tumour became larger inside.
(BEN-SEWA 5)

Decisions around the type of treatment sought – allopathic versus traditional care, private versus public – are determined by perceived cost among other factors (e.g. quality, location). In the villages of Kheda District, private care is widely available, and is generally thought to be of higher quality than publicly provided health care:

> *Respondent 1: Private facilities are good. As we are busy coming and going for work, we can take their treatment. Because private doctors are nearby...*
> *Respondent 2: Private Doctor's charges are very high.*
> *Respondent 3: Only those people who have money go to private hospital.*
> *(FGD-MIX 4)*

Respondents expressed a preference for private facilities, but indicated that they would use public health care if insufficient money were available:

> *Respondent 1: We ourselves (the women in the household) decide which hospital we want to go to. Today if we have five, twenty-five rupees, we think of going to a big hospital (a private hospital), but if we do not have money, we will naturally go to the government hospital...*
> *Respondent 2: We can get treatment at a lesser cost.*
> *(FGD-MIX 2)*

In one focus-group discussion, men reported that they were unlikely to use seek care from Ayurvedic practitioners, not because of high consultation fees, but because of the cost of Ayurvedic treatments:

> *Interviewer: Does anyone go to take treatment from them?*
> *Respondent 1: Poor people do not go. Because it is very expensive for them. The Ayurvaid's medicines are costly...*
> *(FGD-MIX 4)*

For lack of money, respondents discontinued or modified the treatments that they had been prescribed by health care providers. For example, one respondent with a chronic dental condition reported that she was not able to take her medicines as prescribed:

> *Since last year, the month of Ashadh, I have stopped all medicines. We need the money for other things. I have stopped all of them... but I thought that when we get some money from work, I'll go.*
> *(BEN-SEWA 11)*

Another suffered recurrence of her illness after failing to follow the prescribed treatment:

> *She (my daughter) was cured in the government hospital. But we were*

supposed to buy those two bottles (of medicine), but we couldn't buy as we did not have money at that time... Her grandfather said that now she is feeling well so there is no need to buy the bottles ...so again she came down with fever.
(FGD-TF 1)

One female respondent expressed that lack of money could prevent her from purchasing prescribed medications and following up with referrals:

They (government doctors) prescribe medicines from outside the hospital... Only if we have money do we buy, otherwise we take whatever medicines the doctor can give us for free. If we don't feel better, then the doctor gives us a note and asks us to go further, to Nadiad or Anand (larger towns nearby). If we have money we go further. If we have money we go, and if we don't have we stay here itself.
(FGD-SEWA)

Methods of coping with medical expenditures

Various methods were used for coping with the cost of medical care. Means of coping with medical expenditures included: borrowing from employers, family, friends and money-lenders; mortgaging land or other possessions; selling valuables (particularly women's ornaments); foregoing expenditure on food, work, education or entertainment; using money saved by the household; doing extra work for wages; and using the public hospitals as the provider of last resort. Women in one focus-group discussion listed some of the ways in which they raised money for medical care:

Respondent 1: We would mortgage our land. Even if it is half an acre, for medicines, we have to mortgage it. If we don't have land, we would even sell our gold ornaments. We have to incur the expenses!
Respondent 2: We may cut down on our entertainment and hobbies, but we can't leave aside the sick person.
(FGD-MIX 2)

Borrowing was by far the most commonly reported means of paying for health care. Respondents reported borrowing from family and friends, employers and (very rarely) money-lenders. Whether interest was charged on the loan, and the amount of interest, seemed to depend on the nature of the relationship between the two parties and the size of the loan:

Interviewer: You spent nine thousand rupees. How did you arrange for it?

Respondent: We borrowed from someone like you (a wealthy villager). And gave back little at a time.
Interviewer: Did they take interest?
Respondent: No, they did not take interest. We had good relations, so they did not take.
(BEN-TF 10)

One respondent had borrowed to cover expenditures incurred in having her grandson hospitalised:

Interviewer: So did you have money in your house (to pay for the hospitalisation)?
Respondent: From here and there only (we acquired the money)... Yes, there is some neighbour from whom we got the money. We have to do like that and pay only... The interest was five percent. Actually, it is usually seven percent. But because they were known to us... They took less.
(BEN-SEWA 2)

Respondents also borrowed from their wealthier employers, and then paid back the loan out of their wages:

Respondent: ...we go for work, and if we ask for five hundred or one thousand rupees, then Patel (the employer) gives us the money. We work throughout the year, so he settles the account every twelve months. Then, whatever we have borrowed is deducted, and the remaining is given to us.
Interviewer: And, do you have to pay interest?
Respondent: Patel says that, "We don't take interest." But, (for those who have borrowed) they pay a lower wage per day so it is almost the same as interest.
(BEN-TF 6)

In the following focus-group discussion, one respondent acknowledged that it was not always easy, particularly for the old and infirm, to borrow money:

Respondent 1: Now someone like this uncle (motioning towards on older participant). Now this uncle is not in a position to do any kind of labour work. If this uncle comes to me and asks me for money then I will have to think, "how will he repay my money?" ...Any person can see that he is not in a position to repay a loan, so people may not give him money. So if such a person is ill, then he may suffer and die.
(FGD-MIX 4)

Beneficiaries reported acquiring money from several different sources to pay for a single episode of health care. The following respondent had used money from various sources to pay for her daughter-in-law's hospitalisation for childbirth:

Respondent: How to do? My sons go to cut the wood, so we were able to collect their wages. We borrowed some money. And we got some money by selling buffalo's milk. In that way we have arranged the money.
(BEN-SEWA 9)

Health insurance was rarely spontaneously mentioned by respondents as a means of coping with medical expenditures.

Understanding and knowledge of insurance

Many respondents were unfamiliar with the concept of insurance. Among those who were familiar, many viewed insurance as a type of savings mechanism, wherein benefits would be provided at a time of need (for example, at the time of hospitalisation, or on the death of a family member) but any unused investment would be returned when the policy had "matured". One male respondent defined insurance as follows:

> *If we have taken insurance then we have to pay a certain amount of money... If our cattle die, for example, then we can get the money for that. If we meet with any accident we can get the money. Other wise, we can get our money back when the policy matures.*
> *(FGD-TF 1)*

One female respondent described the interest-earning capacity of her insurance:

> *Respondent 1: Yes, we have joined an insurance scheme. We pay fifty rupees (every month). If you pay one thousand today, then after ten years with interest it doubles.*
> *Respondent 2: Such money is useful. You won't lose it.*
> *(FGD-MIX 2)*

Some respondents thought that savings and credit mechanisms were also forms of insurance:

> *Interviewer: So what do you think, what does insurance mean?*
> *Respondent 1: Insurance means the saving, which can be useful in future.*
> *Respondent 2: If we have saved money in small amounts right from the beginning, it may come to one thousand or two thousand rupees. Then it becomes useful in the future. We can also get a loan if we want to. We can use that saving for anything we want to.*
> *Respondent 3: If we want, we can also take a loan. If we were not saving up small amounts, we would never be able to save up such a big amount. It can be useful when someone is ill.*
> *(FGD-MIX 1)*

When discussing insurance, respondents most often cited life insurance as an example:

> *Respondent: In the future, if we meet with an accident, or we die a natural death, then my successors can at least live their lives peacefully. Suppose I*

have taken insurance of fifty thousand rupees. Now double accident insurance means when I die because of an accident, at that time my children can get one lakh (one hundred thousand) rupees. So my family can live a happy life after me.
(FGD-MIX 4)

Interviewer: Has anyone heard about insurance?
Respondent: Insurance is the one that we get when someone dies. If there is a death, they add into it (the amount paid as premium) and give back to us.
(FGD-TF 2)

Very few cited health insurance as an example of insurance, or were able to describe existing schemes.

Insurance, in general, is thought of as being too expensive, something that is available only to the wealthy. One woman said:

Didn't I tell you that it (insurance) is a relief. But if we do not have money to pay, how can it be a relief?
(FGD-MIX 2)

Male participants in a focus-group felt that paying a regular premium was difficult, given fluctuations in agricultural incomes:

Respondent: For this insurance, at present I may say that "you give me insurance of one lakh (one hundred thousand) rupees." So then I will have to pay two thousand five hundred rupees premium. Suppose today our paddy crop grows well, I may be able to pay two thousand five hundred rupees. And next time if it does not grow, we may not be able to pay. So then our investment goes to waste.
(FGD-MIX 4)

Beneficiaries and doctors alike are distrustful of insurance schemes and agents. The following respondent did not wish to join an insurance scheme, having heard of others who had lost money to insurance and savings "societies":

Respondent: Many have lost their money after paying to become a member. Many societies have closed after taking people's money.
Interviewer: So you have not paid anywhere.
Respondent: No, nowhere. I have not paid anywhere and I am not going to pay.
(BEN-SEWA 3)

Men in one focus-group discussion spoke of their negative experiences with livestock insurance:

Respondent 1: Now suppose the buffalo dies. Then the insurance company will say that because of neglect it died. So for this reason we may not get money from the insurer.
Respondent 2: They do not get reimbursement from the insurer. With buffaloes, this is the problem.
Respondent 1: If it is a human being then we can know his identity. So we can get reimbursement from life insurance. Whereas with buffalo it is difficult to identify a specific animal. They may have written black colour on the insurance forms, but there are many black buffaloes. So many times people do not get the insurance. Now people have got fed up – we have stopped the insurance here in our dairy co-operative.
(FGD-MIX 4)

One doctor described some of the ways in which insurance agents might try to deceive the insurer for personal financial gain:

Respondent: Suppose one fellow in our area develops peripheral vascular disease. So I will operate on this type of person to prevent gangrene. Gradually, that fellow will recover. So, during the period of recovery, that person may be contacted by an insurance agent in his village. The agent may contact that fellow, and the agent will start insurance. Then the agent will come to me saying, "Doctor, can you show this operation on a later date than it actually occurred?" I don't like this kind of thing.
(PROV-SEWA 3)

Summary of findings

Perceived cost of health care (including indirect costs, like cost of transportation) and the availability of money in the household were important determinants of health care seeking. Being poor was perceived as a barrier to seeking health care. In some households, males decided whether and where women in the household sought health care, due in part to the fact that males were in control of household finances. Decisions around type of treatment sought were determined by perceived cost and levels of economic wealth. Respondents reported cases in which lack of money had resulted in delays in health care seeking, and failure to comply with treatments that had been prescribed by health care providers.

Many different methods were used for coping with the cost of medical care, including mortgaging land or other possessions, selling valuables, and foregoing expenditure on food, work, education or entertainment. Borrowing was by far the most commonly reported means of paying for health care, although it was common

to acquire money from several different sources to pay for a single episode of health care.

Many respondents were unfamiliar with the concept of insurance. Among those who were familiar, insurance was often viewed as a type of savings mechanism, wherein premiums paid should be returned if the insurance went unused. Respondents were most familiar with life insurance. Insurance was generally perceived to be unaffordable to the poor. Past experience had made beneficiaries and doctors alike distrustful of insurance schemes and agents.

Discussion and interpretation of findings

The fact that respondents expect to receive money back when an insurance policy expires is not surprising. Formal money-back insurance plans are common in India. For example, India's governmental Life Insurance Company (LIC) sells as one of its most popular products the "Endowment Plan" – "Under this plan sum assured is payable on the date of maturity or on death of the life assured, if earlier" (Life Insurance Corporation of India 2001). Such policies provide the full benefit of the policy if the policyholder outlives the term. If the policyholder dies before the term, the benefit passes on to their nominee or legal heirs.

It was not surprising to learn that borrowing is a common source of money for financing health care. Many studies have shown that households in India smooth consumption by using formal credit markets, and also by borrowing from family.

APPENDIX 12: RELATED PUBLICATIONS

HEALTH POLICY AND PLANNING; **16**(4): 395–403

Quality of hysterectomy care in rural Gujarat: the role of community-based health insurance

M KENT RANSON[1] AND KR JOHN[2]

[1]Health Policy Unit, London School of Hygiene and Tropical Medicine, London, UK and [2]Department of Community Health, Christian Medical College, Vellore, India

Community-based health insurance (CBHI) may be a mechanism for improving the quality of health care available to people outside the formal sector in developing countries. The purpose of this paper is: (1) to identify problems associated with the quality of hysterectomy care accessed by members of SEWA, an Indian CBHI scheme; and (2) to discuss mechanisms that might be put in place by SEWA, and CBHI schemes more generally, to optimize quality of health care. Data on the *structure* and *process* of hysterectomy care were collected primarily through review of 63 insurance claims and semi-structured interviews with 12 providers.

Quality of hysterectomy care accessed by SEWA's members varies tremendously, from potentially dangerous to excellent. Seemingly dangerous aspects of structure include: operating theatres without separate hand-washing facilities or proper lighting; and the absence of qualified nursing staff. Dangerous aspects of process include: performing hysterectomy on demand; removing both ovaries without consulting or notifying the patient; and failing to send the excised organs for histopathology, even when symptoms and signs are suggestive of disease. Women pay substantial amounts of money even for care of poor, and potentially dangerous, quality.

In order to improve the quality of hospital care accessed by its members, a CBHI scheme can: (1) gather data on the costs and complications for each provider, and investigate cases where these are excessive; (2) use incentives to encourage providers to make efficient and equitable resource allocation decisions; (3) select, and contract with, providers who provide a high standard of care or who agree to certain conditions; and (4) inform and advise doctors and the insured about the costs and benefits of different interventions. In the case of SEWA, it is most feasible to identify a limited number of hospitals providing better-quality care and contract directly with them.

Introduction

Over the last 20 years there has been growing interest in health insurance for the informal sector in developing countries. Community-based health insurance (CBHI) schemes (also referred to as micro-insurance and mutual health insurance) involve *prepayment* for some component of health care and *pooling* of revenues such that there are cross-subsidies from low-risk to high-risk individuals. CBHI schemes can vary tremendously in terms of their design, management and the nature of the 'communities' covered (see Bennett et al. 1998 for a review of 82 schemes). Policymakers generally see CBHI as a means of improving access to effective health care, and preventing indebtedness and impoverishment as a result of trying to access such care.

A CBHI scheme also has the potential to shape the quality[1] of care accessed by its members. For example, Bennett et al. (1998, p. 38) found that 'more successful schemes' did take on a more strategic purchasing role, including 'selective contracting with providers and use of essential drug lists, to help ensure quality of care'. CBHI might prove helpful in addressing poor quality and inefficiency in India's health care system. Health care in India is largely privately financed (75% of all health expenditures are private) and privately provided (80% of allopathic doctors and 57% of hospitals are in the private sector) with minimal government regulation (Bhat 1999). This system pays providers more for doing more, whether or not there is any evidence more is beneficial to the patient. Because there is regulation of neither the quality nor the price of medical care, the system may pay more for poor quality.

The purpose of this paper is twofold: first, based on a small preliminary study, to identify problems associated with the quality of hysterectomy care accessed by members of an Indian CBHI scheme, the Self-Employed Women's Association's (SEWA's) Medical Insurance Fund. Since 1992, SEWA has operated a voluntary Medical Insurance Fund for its members. Secondly, the study will discuss mechanisms that might be put in place by SEWA, and community-based insurance schemes more generally, to optimize quality of health care.

Hysterectomy was chosen as a tracer of quality for two main reasons. First, hysterectomy is the single most common cause of hospitalization for which SEWA members submit claims.[2] Secondly, the technical quality of hysterectomy care is highly important given the potential benefits and risks of this procedure. Benefits of hysterectomy may include prolongation of life, for example, when it used to rid the body of cancer of the cervix or uterus. Quality of life may be enhanced if hysterectomy is used to cure irregular or painful menstruation, or to provide relief from a prolapsed uterus. However, the risks of this major surgery include intra- or post-operative death and non-fatal complications, such as urinary tract infection, incisional hernia, sepsis, intestinal obstruction, coronary artery disease, depression and other psychiatric problems (Sandberg et al. 1985).

The first section of the paper provides a brief description of SEWA's Medical Insurance Fund. The following section describes the methods and results of the study on quality of hysterectomy care. The final section discusses mechanisms that may be employed by SEWA and other CBHI schemes to increase the quality of health care services.

SEWA's medical insurance fund

SEWA is a union for women working outside the formal sector, with 68% of its 215 000 members residing in Gujarat. SEWA's Integrated Social Security Scheme was initiated in 1992. This scheme provides life insurance, medical insurance and asset insurance (against the loss of house or working capital in case of flood, fire or communal riots). In order to join the Medical Insurance Fund, women must be between 18 and 58 years of age. Those who pay the yearly Social Security Scheme membership fee of 72.5 rupees (30 rupees of which is earmarked for medical insurance) are covered to a maximum of 1200 rupees yearly in case of hospitalization. Women also have the option of becoming Lifetime Members of the Social Security Scheme by paying 700 rupees. Special benefits to which only the Lifetime Members are entitled include: maternity benefit of 300 rupees with the birth of each child; reimbursement for cataract surgery up to 1200 rupees; reimbursement for a hearing aid up to 1200 rupees; and reimbursement for dentures up to 600 rupees. Exempted from coverage are certain chronic diseases (for example, chronic tuberculosis, certain cancers, diabetes, hypertension, piles) and disease caused by addiction.

The choice of provider is left entirely to the discretion of the SEWA member. They are eligible for reimbursement whether they use private for-profit, private non-profit (i.e. trust or charitable) or public facilities. At the time of discharge from hospital, the SEWA member is required to pay the full bill out-of-pocket. The insured must then submit to SEWA the following documents within a 3-month period: a doctor's certificate stating the reason for hospitalization and the dates of admission and discharge; doctors' prescriptions and bills for medicines purchased; and reports of laboratory tests done during the hospital stay. After submission of these documents, the member is usually visited by a SEWA employee who verifies the authenticity of the claim. All documentation is reviewed by a consultant physician (to assess for fraudulent claims or cases of chronic disease, but *not* the quality or appropriateness of the services provided), and a final decision on the claim is then made by an insurance panel. Finally, the SEWA member is notified of the panel's decision and, when applicable, is paid by cheque. Of approximately 1930 claims submitted in Gujarat between 1994 and 2000, 89% were approved for reimbursement.

Throughout the ten districts of Gujarat where it operates, the Medical Insurance Fund had approximately 23 214 members (47% lifetime, 53% annual) in 1999–2000. Statewide, coverage by the Medical Insurance Fund was 16% (23 214 insured among 147 600 SEWA members). It is very difficult to estimate the costs of administering the Medical Insurance Fund; many of the administrative functions are shared with the life and asset insurance components as well as with other activities of SEWA. A recent study by the International Labour Organization found that basic administration costs accounted for 9.3–19.7% of SEWA's Integrated Social Security Scheme expenses annually (Michaela Balke, ILO, personal communication).

Quality of hysterectomy care accessed by SEWA members

Study methodology

This study was carried out in August 2000. It focused on providers who had performed hysterectomies on the 63 SEWA members in Kheda District who had submitted claims from July 1994 to August 2000. Quality was assessed based on Donebedian's 'structure, process, outcome' approach (Donabedian 1980). *Structure* refers to the availability of inputs or infrastructure necessary to provide good quality care. The key aspects of structure examined were the availability of staff and equipment. *Process* refers to the procedures of delivering care, in particular the correctness of the diagnosis and choice and process of delivering a therapeutic regime. Here we assessed the appropriateness of performing hysterectomy (and oophorectomy), patterns of pre-, intra- and post-operative care, and the processes of information sharing and decision-making. *Outcome*, which is the achievement of the expected improvement in health status, could not be assessed in this study. Data on the cost of hysterectomy care was also collected.

Relevant information was first obtained directly from the insurance claims, including: age of claimants, cost of hospitalization, type of provider (public, private non-profit or private for-profit) and providers' contact details. In order to compare monetary amounts for different years (for example, data on income and cost of treatment), values have been standardized to 1999/2000 Indian rupees. Gross Domestic Product (GDP) deflators for India (IMF 1999: 513) were used in these calculations.

The number of hysterectomies performed by each provider in the database was tallied. The authors, with the help of two research assistants experienced in qualitative research and fluent in Gujarati (the local language), sought to visit all providers who had operated on three or more SEWA

patients. Three methods of data collection were used: (1) semi-structured interview; (2) a visit to operating theatre and ward; and (3) where available, a review of at least one in-patient medical record. The semi-structured interview was designed to collect information in the following domains: provider characteristics (regarding staff and operating facilities); pattern of care provided to hysterectomy patients during the pre-operative, operative and post-operative periods; the process of information sharing and decision-making; and fees charged. All interviews were conducted in the providers' facilities. Data collected during visits to the wards and operating theatres was limited to presence of: scrub room, dome light, operating table, Boyle's apparatus,[3] autoclave and air conditioning. In-patient records were reviewed to validate the course of pre-operative, operative and post-operative care as described by the provider.

A single focus group discussion was held among ten SEWA members in order to explore their perceptions of the hysterectomy procedure and hospital care available in Kheda District.

Results

General

The average age of the 63 hysterectomy claimants was 35.32 years (median 35; age distribution shown in Figure 1). The average duration of hospitalization was 9.1 days (median 8 days). Four of the claims were for care at a public hospital, six claims were for care at three different private non-profit hospitals, and the remaining 53 claims were for care at 27 different private for-profit hospitals (Table 1).

Twelve of the 31 providers were interviewed (see Table 1), representing 39 of the total 63 SEWA members operated on (62%). No provider refused to be interviewed. Of the eight providers who had performed three or more of the surgeries, seven were interviewed.

Of the 12 doctors interviewed, nine worked in private for-profit hospitals, two in private non-profit (mission) hospitals and one in the public hospital. Seven of the providers were diploma or degree holders in gynaecology, while the remaining four (all of them in private for-profit facilities) were general surgeons.

Structure: staff and equipment

The number of beds in each private for-profit hospital ranged from 10 to 60, whereas the number of beds in private non-profit hospitals and the public hospital ranged from 75 to 150. The bed to staff ratio (including full-time physicians, nurses, administrative, cleaning and other support staff) ranged from 1.3 to 4.3 at private for-profit facilities, 0.9 to 1.1 at private non-profits, and 3.6 at the public hospital. Neither the private for-profit hospitals nor the public hospital employed qualified nurses (that is, nurses with any formal training) but used 'nurses' who had received on-the-job training. Both of the private non-profit facilities had approximately one qualified nurse for every four in-patient beds.

The operating theatres at private non-profit hospitals and the government hospital all had at least one scrub room, dome light, Boyle's apparatus and air-conditioner. This equipment was also possessed by three of the private for-profit hospitals. Operating theatres in five of the private for-profit hospitals were without scrub room, four without dome lights (simple fluorescent tube lights or floor lamps were used), four without Boyle's apparatuses, and two without air-conditioning. No single operating theatre was lacking in all four amenities.

Process: hysterectomy (and oophorectomy) performed only when medically indicated?

The general surgeons admitted that they would perform surgery in the absence of signs or symptoms of disease, on request by the patient (as discussed below, it is common for

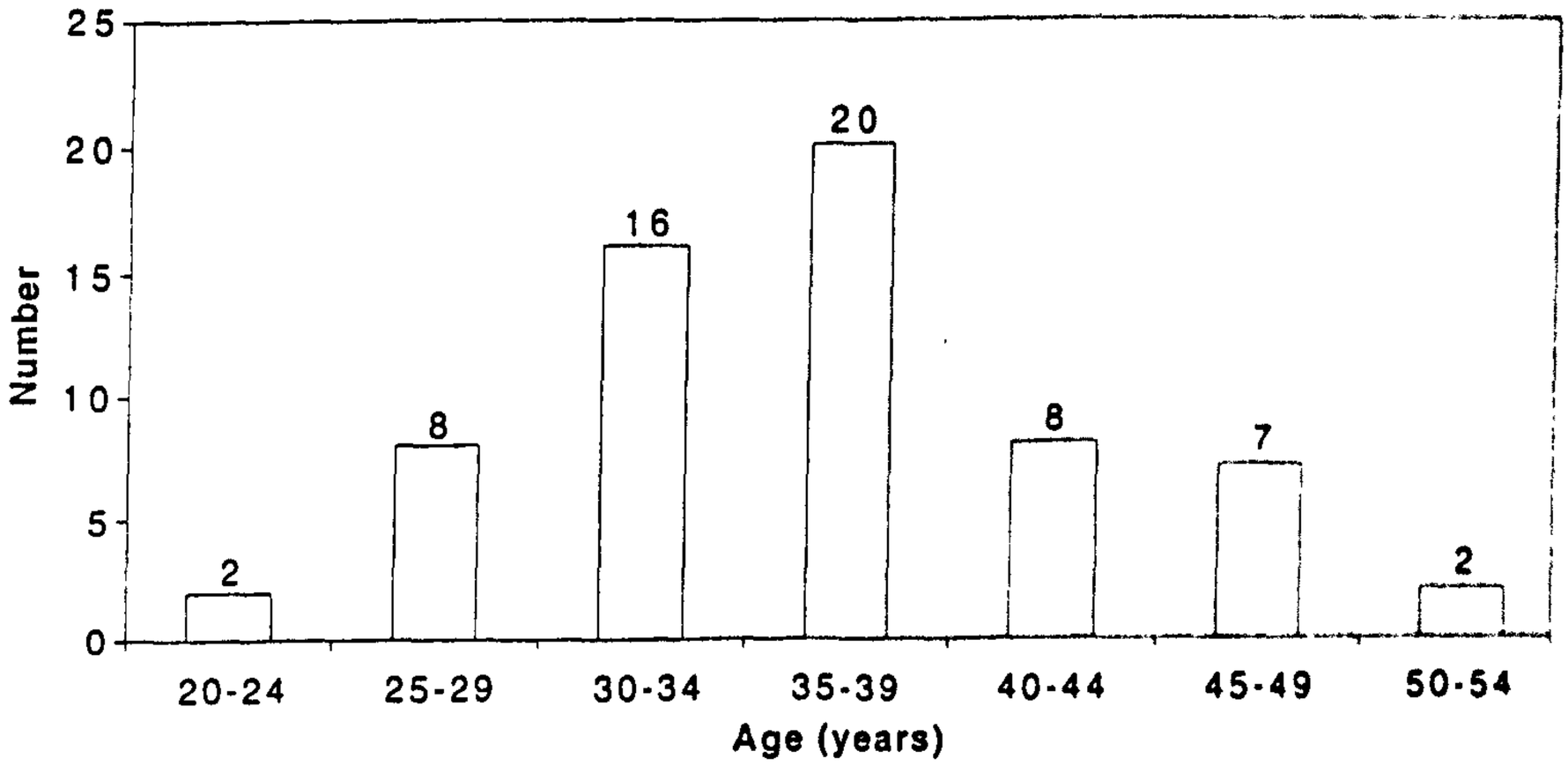


Figure 1. Age distribution of women who have submitted claims for hysterectomy (July 1994 to August 2000)

Table 1. For each provider, the number of hysterectomy claimants, their average age and income, duration of hospitalization, cost of hospitalization, and amount reimbursed

Provider ([a]Interviewed)	No. of claimants	Average age (yrs)	Duration (days)	Total cost (1999/2000 rupees) Average	Min	Max	Reimbursed (1999/2000 rupees)
Public							
1[a]	4	42	11	2 196	706	3 932	1 045
Private non-profit							
2	3	35	8	5 545			1 276
3[a]	2	37	8	6 188			1 321
4[a]	1	38	5	1 449			1 321
Overall, private non-profit	*6*	*36*	*8*	*5 077*	*1 449*	*8 135*	*1 298*
Private for-profit							
5[a]	8	32	8	3 118			1 286
6[a]	6	38	9	5 914			1 294
7[a]	4	39	8	7 619			1 317
8[a]	3	34	8	4 097			1 312
9[a]	3	33	10	5 597			1 312
10[a]	3	31	11	3 491			1 316
11	2	35	11	5 033			1 254
12	2	44	10	2 888			1 200
13[a]	2	32	8	6 427			1 266
14	2	33	9	6 274			1 355
15[a]	2	34	7	6 087			1 321
16	1	25	8	5 503			1 321
17	1	30	7	6 746			1 200
18	1	35	10	5 658			1 212
19	1	45	10	6 229			1 510
20	1	35	13	12 172			1 307
21	1	40	2	1 437			1 307
22	1	35	11	8 621			1 307
23	1	37	7	6 053			1 307
24[a]	1	40	9	3 877			1 212
25	1	38	41	3 852			1 321
26	1	29	10	6 752			1 307
27	1	22	6	3 411			1 307
28	1	35	8	5 331			1 212
29	1	35	10	4 131			1 212
30	1	45	10	8 040			1 212
31	1	28	6	4 685			1 307
Overall, private for-profit	*53*	*35*	*9*	*5 215*	*1 437*	*12 172*	*1 292*
Overall	63	35	9	5 010	706	12 172	1 277

women to request hysterectomy for non-medical reasons). The gynaecologists generally acknowledged that it was an unhealthy practice to remove the uterus unnecessarily; however, most performed the surgery 'on demand', as patients denied surgery (and instead offered medical treatment) would simply present to another hospital requesting the operation. Only the gynaecologists in the two private non-profit hospitals reported denying surgeries to those who did not seem to have underlying disease.

Three of the five general surgeons routinely removed both ovaries, while one removed a single ovary in every case ('the *left* ovary is *left*'), and another removed ovaries only in women older than 35 years. The gynaecologists reported performing bilateral oophorectomy in 10–30% of all cases, and rarely before the age of 40 or 45 years.

Process: pre-, intra- and post-operative care

Table 2 summarizes the information gathered on patterns of pre-, intra- and post-operative care from two of the hysterectomy providers. These were selected to illustrate worst- and best-case practices.

All providers claimed to perform history, physical and vaginal examination when the patient first presented. Ultrasound was available in five of the nine private for-profit hospitals as well as the two private non-profit hospitals Approximately half of providers reported occasionally performing cervical smear, generally when cervical erosions were seen on vaginal examination. None of the doctors reported routinely performing diagnostic dilatation and curettage (some cited high cost as the reason, others the refusal of patients to undergo a trial of conservative, or medical, management for their complaint).

All of the general surgeons stated that they would admit and operate on the same day. The gynaecologists generally reported admitting 24 or 48 hours prior to the procedure so as to conduct pre-operative tests and to prepare the patient for surgery. At all providers, blood tests and urine microscopy were routinely performed. Only when patients were willing to

Table 2. Worst-case (private general surgeon) and best-case (trust hospital gynaecologist) protocols

Activity	Worst-case protocol	Best-case protocol
Pre-admission appointment	None. Patient admitted to hospital when she first presented	Always. History and physical examination including vaginal exam. Depending on circumstances, ultrasound and cervical smear may have been performed.
Diagnostic dilatation and (D & C)	Never.	If older than 30 years, or woman had completed child-bearing, and no gross abnormality, then D & C performed.
Trial of medical therapy	Never.	If no pathology on examination/investigations, then medical therapy (hormones or antibiotics) was generally tried
Counselling	None, as patients were usually 'pre-decided'.	Counselling was provided to women who were requesting hysterectomy but had no pathology on investigation. Ultimately, many still opted for hysterectomy.
On admission	Blood and urine tests only.	Admitted 48 hours prior to surgery. Blood, urine, kidney function, blood sugar, HIV, HBSAg, BTCT checked in all cases. In some cases X-ray, ECG and echocardiogram.
Transfusion	Very seldom, as 'very little blood lost during this procedure'.	One matched pint of blood was kept at the ready for each patient. If haemoglobin was less than 8, then the patient was transfused prior to surgery (20% of all cases)
Type of surgery	Abdominal hysterectomy.	Usually abdominal hysterectomy, however vaginal hysterectomy for prolapsed uterus.
Duration	35 to 40 minutes.	1.5 hours.
Oophorectomy	Always as 'most were hypertrophied or cystic, and they would otherwise have problems in the future'.	If age less than 40 and pathology of ovary, then one was removed If age over 40 then bilateral oophorectomy.
Appendectomy	Always.	Never.
Scrubbed staff assisting in surgery	One non-registered nurse.	One medical intern and one registered nurse
Specimens sent for histopathology	Never.	Always.
Post-surgical lab tests	None.	Haemoglobin and urinalysis.
Post-surgical medications	IV antibiotics given at the time of operation, but outside of the OR. Pain killer.	IV antibiotics for 1 to 2 days, followed by 5 to 7 days of oral antibiotic. Pain killer, ranitidine, antacid and iron also given.
Days between surgery and discharge	Five.	Generally seven (may be five or six)
Instructions on discharge	Patients were advised to return to routine work immediately as they 'get enough rest here (in hospital)'.	Labourers were instructed to rest for 3 months (sweeping can be done after 1 month) Upper income women were instructed to rest for 1.5 months. High protein diet was advised Abstinence from sexual activity for 1 5 months.
HRT	Never. 'Post-menopausal symptoms (like hot flushed and loss of sex-drive) are a Western phenomenon'.	Women of higher income groups generally accepted this, whereas middle and lower income groups declined because of the cost 5% post-oophorectomy opted for HRT.
Complications after discharge	Patients were assured that no complication would arise.	Patients were advised how to detect wound infection and were counselled on 'menopausal' symptoms (hot flushes, dry skin, vaginal dryness, etc.).
Follow-up	Follow-up after 4 days. History and physical examination was performed. No further follow-up.	Physical examination at 1 week (with vaginal examination), 1 month and 6 months.

pay extra were tests such as X-ray, HIV/HBSAg or ECG performed. Generally, providers would not operate unless haemoglobin was at least 8 or 8.5. However, chart review revealed surgeries being performed with haemoglobin as low as 6.4 [in this case, the general surgeon stated that haemoglobin was not so important given that 'little blood was lost during this (hysterectomy) procedure'] HIV testing was performed routinely only at the two private non-profit hospitals

The number of hysterectomies performed per operating doctor per year ranged from 35 to 180 (both of these were gynaecologists in private for-profit hospitals) The general

surgeons performed abdominal hysterectomies only. The gynaecologists performed abdominal hysterectomies, except in the case of prolapsed uterus, where vaginal hysterectomies were performed. The reported duration of surgery varied from 30 minutes to 2.5 hours. All of the providers reported having at least one sterile (or 'scrubbed') assistant available during the surgery, in addition to a ('non-scrubbed') floor assistant.

None of the doctors reported routinely sending the excised uterus (or ovaries) for histopathology, even when the patient presented with signs or symptoms suggestive of disease. The doctors stated that patients were not willing to pay the 150 to 400 rupees charged for histopathology examination.

Post-operatively, a minority of the doctors routinely gave oral iron, calcium and/or gastro-protective agents (to protect the stomach from the analgesic medications). A single follow-up appointment was generally scheduled for 4 to 10 days after discharge.

Process: information sharing and decision-making

All of the doctors commented that a certain percentage of patients requested hysterectomy even in the absence of signs or symptoms of gynaecologic disease. Similarly, they reported that women who had signs or symptoms of disease were often unwilling to undergo a trial of conservative (i.e. medical) management. It is not clear the extent to which doctors tried to discourage (or encourage) unnecessary hysterectomies, or warned patients about the potential complications.

A complex variety of social, cultural, economic and medical factors seemed to underlie the willingness to undergo hysterectomy. As reported in the focus group discussion, it was the tradition in some households that during menstruation, a woman was not permitted to enter temples, to cook for her family, and more rarely, to enter the house. For example, women stated:

- ". . . we don't do household work for three days (while menstruating)."
- "No. No cooking. We get it (food for our family) prepared by someone else."
- "We don't touch anywhere in the house during those days. Three days."
- "We can't go to the temple for four days. We don't even touch anybody in the house."

Women felt that avoidance of such problems may in some cases justify hysterectomy, but agreed that the decision whether to go for hysterectomy was ultimately made by the doctor:

> "The doctor gives advice that, 'You will have to get it (the uterus) removed, then you won't have any problems again.' So we have to do it."

The women acknowledged that doctors (particularly private for-profit) had an interest in performing unnecessary hysterectomies:

> "There are doctors who do it for money only . . Yes. It is there in many places. At many places they do the operation for money. Nobody gives true advice. If we go to the government hospital, then we get good advice. But not in the private hospital."

None of the doctors consult the patient about oophorectomy pre-operatively, and often they do not inform her post-operatively that the ovaries have been removed. The argument given by doctors in favour of 'blanket oopherectomy' was that this helps the woman by preventing future ovarian disease. These same doctors downplayed the potentially harmful consequences of early removal of the ovaries. Hormone replacement therapy was never prescribed by the general surgeons, and only rarely by the gynaecologists. Reasons cited for not prescribing HRT include: high cost to the patient, limited patient compliance, and 'Indian women never have complaints related to this'.

Only one of the five general surgeons routinely provided a discharge summary, compared with six of the seven gynaecologists. The instructions provided to the patient at the time of discharge varied considerably. Most, though not all, of the doctors advised the patient to refrain from heavy lifting (for anywhere between 2 weeks and 3 months). Very few of the doctors advised the patient around sexual intercourse (at least one doctor told patients to abstain for 3 months).

Cost

Among the 63 surgeries for which claims were submitted to SEWA, the average official cost (based on receipts for bed fees, doctors' fees, medicines and lab fees) was 5010 rupees (median 5292 rupees), and average reimbursement 1277 rupees (median 1307 rupees). Data suggest that the cost of hospitalization in public facilities was less than in private facilities, and that there was little difference between private for-profit and private non-profit (see Table 1)

Providers reported that the cost of surgery and hospitalization (inclusive of medicines and tests) was generally tailored to the socioeconomic status of patients. For the poorest patients, the cost varied from 3210 rupees at the government hospital (this includes drugs purchased outside the hospital and bribes or 'unofficial gifts' of 500 rupees) to 6000 rupees at one private non-profit hospital. For the wealthiest patients the cost was as high as 15 000 rupees; this higher cost was accounted for primarily by extra laboratory tests and 'special room' charges (special rooms are typically private with air conditioning and attached bathroom).

On average, the fees were highest among gynaecologists at private non-profit hospitals (5500 rupees), followed by gynaecologists at private for-profit hospitals (5100 rupees), and were lowest among the general surgeons at private for-profit hospitals (4300 rupees).

Discussion: what, if anything, can be done?

Weaknesses of the current study include its small size, and the focus on structure and process indicators of quality as

opposed to outcomes, for example, the frequency of medical complications following hysterectomy. While structure (staff and equipment) could be assessed fairly objectively, data on process were collected through provider in-depth interviews, and hence may be prone to bias. More objective, but time and resource intensive, measures of process might involve direct observations (for example, of the hysterectomy surgery itself, or pre-operative visits) or more thorough review of medical records (not available for most of the facilities studied).

This study suggests that the quality of hysterectomy care among SEWA's members varies tremendously, from potentially dangerous to excellent. This variation is present in both structure and process indicators of quality. Seemingly dangerous aspects of structure include operating theatres without separate hand-washing facilities or proper overhead lighting, and the absence, in the majority of facilities, of qualified nursing staff. Dangerous aspects of process include: performing hysterectomy on demand without diagnostic work-up; removing both ovaries without consulting (pre-operatively) or notifying (post-operatively) the patient; and failing to send the excised uterus (and ovaries) for histopathology, even when symptoms and signs suggest an underlying disease. These dangerous practices seem (with the exception of oophorectomy) geared towards increasing the number of procedures performed and keeping costs to the provider down. In general, it can be concluded that the standard of care is higher among the gynaecologists than among general surgeons. Given the small size of this study, it is impossible to make conclusions regarding the relative quality of care provided by public versus private facilities. The cost of a hysterectomy was higher when provided by a gynaecologist versus a general surgeon, suggesting that there may be, in this setting, an association between higher price and better quality. Many women are, however, paying substantial amounts of money for care of poor, and potentially dangerous, quality.

There are problems both on the patient and providers sides, for which it may be difficult to improve quality of hysterectomy care in Kheda District. For patients, decisions around whether, when and where to have a hysterectomy, are difficult given the imperfect information available to consumers. In general, 'the consumer (of health care) is unlikely to have good information about her own health, what treatments are available, what the effectiveness of treatments is likely to be and what the cost of treatments will be' (Mooney 1992, p. 87). This lack of information is exacerbated in rural Gujarat, where the literacy rate of women (older than 6 years of age) is only 49% (Government of Gujarat 1996) and where decision-making is complicated by the domestic, religious and economic implications of hysterectomy. Ideally, the consumer should be able to rely on her physician to make a well-informed decision that is in the consumer's best interest. However, providers may not know what is the most efficient rate or quality at which hysterectomy surgeries should be performed. For example, a study by McPherson et al. (1982) found a more than two-fold variation in age-standardized hysterectomy rates between hospital service areas in each of New England, Norway and England. Furthermore, it may be difficult for a doctor to make a decision in the patient's best interest when there are financial incentives to do otherwise. For example, a doctor who is paid out-of-pocket by patients for each hysterectomy performed may be inclined to encourage women to have hysterectomies even in the absence of indications.

For more than 8 years, the SEWA Medical Insurance Fund has been running in Kheda District. Having acknowledged that it is difficult to establish what is the ideal rate and quality of hysterectomy care, why has SEWA failed to at least protect its members from the dangerous practices described above? Several factors seem to be responsible for this:

(1) SEWA has not attempted to monitor the frequency or quality of care provided to its members.
(2) SEWA does not actually act as an intermediary (financial or otherwise) between the purchaser and provider, and thus has had no influence on provider behaviour.
(3) Levels of reimbursement under the SEWA scheme are low relative to the cost of hospitalization, and are not conditional on the hospitalization being necessary or of an acceptable level of quality. Thus, the scheme appears to have done little to direct consumer behaviour.

What things might a CBHI scheme do to optimize the quality and efficiency of the care it finances? The community-based insurer must be a *strategic* purchaser of health care (i.e. must serve as the financial intermediary), attempting to influence the behaviour of both providers and consumers so as to maximize quality and efficiency while at the same time keeping costs under control (Enthoven 1994; WHO 2000).

First, the insurer must establish guidelines as to what constitutes efficient care, and gather data on outcomes and resource use for each provider (physician profiling). For example, 'a good insurance-based information system would be able to compare referral rates by different doctors and investigate those cases where excessive referrals seem to have been made' (Bennett et al. 1998, p. 96). Similarly, an information system should allow comparison of costs and outcomes for a certain intervention across different providers. Cases where costs or complications are excessive could then be investigated. For SEWA, as for other CBHI schemes, it would be relatively easy to collect and compare data on costs However, it would not be feasible for SEWA to collect provider-specific information on outcomes, given that myriad different providers are used under the scheme, and the beneficiary population would be difficult to contact in follow-up as they live in villages over a very wide area. It might be feasible and useful for SEWA to monitor structure and process aspects of care by more thoroughly reviewing receipts that are being submitted, and perhaps by requiring doctors to submit a copy of the in-patient record.

Secondly, 'insurers should take a very active role in establishing institutional mechanisms that encourage providers of health services to make efficient and equitable resource allocation decisions' (Kutzin and Barnum 1992, p. 68) Perhaps most important here is determining the method by which doctors, and other health care providers, will be remunerated

for their services. Mooney (1992, p. 135) states, '. . . while we know we can influence what doctors do by changing the financial and non-financial incentives they face, there is (1) too little recognition of this as a policy tool in health care; (2) too little information about just what the impact of different incentive and remuneration systems is on doctors' behaviour; and (3) too little thought given to trying to decide what societies want their doctors to do anyway!'. Different methods of payments present providers with different incentives and each of the methods has its strengths and weaknesses. For example, a doctor who is paid by salary to provide hysterectomy care might try to limit the number of patients he sees, as well as the time spent with each patient. A doctor paid by fee for service has the incentive to perform as many surgeries as possible, and if there is no constraint in the purchaser's ability to pay, to use the best available surgical technology, drugs, accommodation, etc. Payment mechanisms can be combined (for example, a doctor can be paid by salary that is topped-up with a fee for each service provided), they can vary from one disease or intervention to another, and they may need periodically to be adjusted based on experience. SEWA, if it is to have any significant impact on quality of care, will need to become an intermediary between patients and providers. However, if SEWA is to use any method of payment other than fee-for-service (for example, capitation, fixed budget or case payment) then it will almost certainly have to restrict the number of health care providers (discussed further below) in order to be administratively feasible.

Thirdly, the insurer should contract with providers who will be responsible for caring for the insured. Limiting the number of providers may allow the insurer to take advantage of economies of scale and physician experience, and may facilitate the gathering of data (say on rates and quality of procedures). Perhaps the biggest problem with limiting the number of providers is that it may hinder geographic access among the insured, particularly those who live farthest from the facilities. At the extreme, the community-based insurer may provide the health care services itself (known as the *direct* pattern of insurance). Or, in countries like India, where there is a large and active private sector, the insurer might merge, or contract, with a single existing provider. Under the *indirect* system of insurance, the third-party insurer reimburses a separate health care provider for its services. The insurer should contract selectively with providers who are observed (retrospectively) to provide a high standard of care or those who (prospectively) agree to certain conditions. Conditions might include following standard treatment protocols, a rational referral process, and/or drug formularies. Even under such a scheme, ongoing monitoring of volume and quality of services would have to be conducted. Given that many hospitals already operate in Kheda District and Gujarat, it would not make sense for SEWA to establish its own system for delivering hospital care. However, SEWA could contract with a limited number of hospitals. Most feasibly, SEWA could identify providers of better-quality care through small-scale research like this study of hysterectomy care. Having limited the number of providers, SEWA could then monitor process and outcome indicators, and renew contracts periodically (annually or biennially) based on satisfactory performance. The process of identifying, contracting with, and monitoring a group of providers would require that SEWA build up (or hire on a temporary basis) individuals with expertise in medical outcomes and contracting

Fourthly, the insurer can inform and advise both doctors and the insured about the costs and benefits of different interventions. For example, SEWA can educate its own members around the indications for, and complications of, hysterectomy. This would be a useful adjunct to some of the aforementioned purchasing strategies. Alone, however, it is probably unrealistic to expect this largely illiterate group of women to absorb and act on technical information. Under the current SEWA scheme, the fact that patients and providers are dispersed geographically also makes education difficult.

As an initial step towards monitoring and improving quality of care, SEWA recently established a monitoring and evaluation cell, and there are plans to establish a research cell. Activities to date have focused on entering the insurance claims into a computer database. Activities of the research cell *may* include: more carefully reviewing incoming claims, receipts, and where available, in-patient records; more systematically monitoring outcomes, including consumer satisfaction with hospital care and medical complications resulting from hospitalization; and identifying hospitals that provide high quality care (at least one per district). The research cell, which will consist of at least two full-time researchers (one of them most likely a medical doctor), will be partly funded by external donors. At present, it is not clear what the administrative costs of this research cell will be, or whether its cost can ultimately be incorporated into members' premiums. The complexity and cost of monitoring quality of care and medical outcomes are likely to be high, given that subscribers to SEWA's Integrated Social Security Scheme are fairly widely scattered among ten districts. In other situations, where the CBHI scheme is based on a smaller geographic area (for example, a village- or district-based scheme) more intensive interventions might be feasible.

Conclusions

A well-designed and managed community-based health insurance scheme should serve to improve the quality of health care available to people outside the formal sector in developing countries. This study of hysterectomy care provided to a group of insured women in rural Gujarat found that: (1) the quality of care can vary from excellent to dangerous; (2) women spend a substantial amount of money on hysterectomy care of poor quality; and (3) for a variety of reasons, SEWA's Medical Insurance Fund has had minimal impact on quality of care. In order to improve the quality of care available to its members, SEWA must take on a strategic role in purchasing health care. Most feasibly, this would involve identifying a limited number of hospitals providing better-quality care and contracting directly with them. Future research should: (1) help community-based insurers to establish the most cost-effective rate and means of delivering different interventions; and (2) determine the mechanisms (for example, different modes of provider reimbursement, drug formularies, practice guidelines, patient and provider

education) most cost-effective in ensuring that providers deliver care of acceptable quality and cost.

Endnotes

[1] We use the term quality as defined by Donabedian (1991, p. 61): 'Quality shall mean a judgement about the goodness of both technical care and the management of the interpersonal exchanges between client and practitioner.'

[2] A separate study by one of the co-authors (MKR) found that more than 15% of claims (63 of 417) submitted in Kheda District from July 1994 to August 2000 were for hysterectomies.

[3] This is a machine that allows the continuous flow of gases while the patient is anaesthetized. Pressurized gases are supplied by cylinders or pipelines to the anaesthetic machine, which controls the flow of gases before passing them through a vaporizer and delivering the resulting mixture to the patient via the breathing circuit.

References

Bennett S, Creese A, Monasch R. 1998. *Health insurance schemes for people outside formal sector employment.* Geneva: World Health Organization, Division of Analysis, Research and Assessment.

Bhat R. 1999. Characteristics of private medical practice in India: a provider perspective. *Health Policy and Planning* **14**: 26–37.

Donabedian A. 1980. *The definition of quality and approaches to its assessment.* Ann Arbor, MI: Health Administration Press.

Donabedian A. 1991. Reflection on the effectiveness of quality assurance. In: Palmer RH, Donabedian A, Povar GJ (eds). *Striving for quality in health care: an inquiry into policy and practice.* Oxford: Oxford University Press, pp.59–128.

Enthoven AC. 1994. On the ideal market structure for third-party purchasing of health care. *Social Science and Medicine* **39**: 1413–24.

Government of Gujarat. 1996. *Health Review, Gujarat, 1995–96.* Gandhinagar, Gujarat: Government of Gujarat.

IMF. 1999. *International Financial Statistics Yearbook.* Washington, DC: International Monetary Fund.

Kutzin J, Barnum H. 1992. Institutional features of health insurance programs and their effects on developing country health systems. *International Journal of Health Planning and Management* **7**: 51–72.

McPherson K, Wennberg JE, Hovind OB, Clifford P 1982. Small-area variations in the use of common surgical procedures: an international comparison of New England, England, and Norway. *New England Journal of Medicine* **307**: 1310–4.

Mooney G. 1992. *Key issues in health economics* London Harvester Wheatsheaf.

Sandberg SI, Barnes BA, Weinstein MC, Braun P 1985. Elective hysterectomy: benefits, risks and costs. *Medical Care* **23**: 1067–85.

WHO. 2000. *The World Health Report 2000: Health systems: improving performance.* Geneva: World Health Organization

Acknowledgements

The authors wish to thank members of the Self-Employed Women's Association for their support and Professor Anne Mills, Dr Amie Cullimore and Ms Mirai Chatterjee for stimulating review comments. Thanks to Ms Swati Vyas and Ms Dimple Save for their research assistance. This research was supported by the British Department for International Development (DFID)

Biographies

M Kent Ranson, MD (McMaster University), MPH (Harvard University), is a PhD candidate in the Health Policy Unit, London School of Hygiene and Tropical Medicine.

KR John, MBBS, MD (Community Medicine), Diploma in Public Health, is Professor and Health Economist in the Department of Community Health, CMC, Vellore, India. (Address: Department of Community Health, Christian Medical College, Vellore, Tamil Nadu, India. Email: kr_john@hotmail.com)

Correspondence: M Kent Ranson, Health Policy Unit, London School of Hygiene and Tropical Medicine, Keppel Street, London WC1E 7HT, UK. Email: k.ranson@lshtm.ac uk

Women in hospital and academic medicine

Sir—Your July 14 editorial[1] draws attention to the difficulties that women face in medicine. The system has to change to ensure that women stay in medicine and can choose particular specialties without reservation.

Senior colleagues could encourage women to stay. Training should be more flexible and job-share schemes should be introduced.[2] Setting up childcare facilities such as nurseries, holiday play-schemes, and nannies, would provide an environment that would ensure peace of mind for women with young families. I wholeheartedly agree that women in hospital medicine should be more equally represented on academic boards, grant-awarding bodies, and appointment committees.

A survey of preregistration house officers showed that women are not choosing careers in surgery largely because of the attitudes of and poor support from their senior colleagues. Rayner and Firth-Cozens[3] concluded that the situation could be remedied by personal coaching, team leadership, or the acquisition of new communication skills.

The royal colleges need to take a more active role to ensure that female doctors stay in their chosen specialties and to provide support for flexible training. That these women do not side-step into non-career grade posts for the sake of their families, or after being dissuaded to stay in career posts by senior colleagues is important. As the system changes, women should be able to combine caring for a family with a thriving career.

Beryl A De Souza

107 Cheyne walk, Grange Park, London N21 1DD, UK

1 Anon. Keeping women in hospital and academic medicine. *Lancet*. 2001; 358: 83.
2 De Souza BA. A step by step guide to flexible training. *WIST* 2001; 20: 3.
3 Rayner C, Firth-Cozens J. Women and surgery: gains and losses. *Ann R Coll Surg Engl* 2001; 83 (suppl): 228–30

Sir—When I started medical school, the feeling of being on a mission prevailed. Caring for patients seemed the highest and most satisfying goal in my life. I was ambitious, I worked long hours, and being a woman did not feel a restriction at all. My career was well planned, and there was no doubt in my or anybody else's mind that I would achieve my goals.

8 years later, the feeling of being on a mission persists. However, I made career choices before experiencing what that mission requires. I agree with you[1] that a career in medicine is very demanding, but caring for a family is just as exacting. The ultimate challenge is to succeed in combining a career and a family while remaining happy. However, I see too many women and men become frustrated while trying to achieve this combination and, unfortunately, I see few examples of real success.

I have decided that I cannot achieve within the present medical system having a top medical career, successfully managing a family, and being happy. Many colleagues, both women and men, recognise the difficulty, however, they all hope they will be that one success.

The reason why I chose a career outside clinical medicine is one of practicality. Factors in my decision were the inefficient 5 or 6 years of training that could be reduced to 3 or 4 years; the absence of part-time positions, the scarcity of childcare facilities that provide care for more than 8 hours a day, and a partner working under the same conditions. Thus, the medical world loses another potential specialist at a time of a serious shortage. I might reconsider my choice if changes occur, but I doubt this will happen during my working life. I choose not to risk depriving myself, my partner, and children. I hope more women and men have the courage to make this choice, and place the firmest pressure on policy makers: that of unfillable job vacancies. Perhaps then the system will change so that our children will not have to make such difficult choices in their lives.

Hester J Loonen

Emma Children's Hospital, AMC, 1105 AZ Amsterdam, Netherlands
(e-mail: h.j.loonen@amc.uva.nl)

1 Anon. Keeping women in hospital and academic medicine. *Lancet* 2001; 358: 83.

Sir—You correctly chastise us[1] for our preconceptions about the sex of surgeons. However, you make the error of perpetuating another outdated idea—the notion that leaving clinical medicine means leaving the profession of medicine. As one who has been responsible for the recruitment and training of medical students, I would be most unhappy if my sole role was to supply only one employer. I hoped to have a wider vision.

Although most medical graduates practise within the UK National Health System, some use their qualifications in other, but not less important, ways. A medical graduate working in a preclinical department may well have trained your writer before she became a medical journalist. The pharmaceutical industry needs medical graduates to devise and oversee the introduction of new drugs. The medical profession needs medical journalists to help the rest of us to keep a sense of perspective. If these and other activities are to be recorded as a loss to medicine, then the world would be a poorer place.

D J T Webster

University Division of Surgery, University of Wales College of Medicine, Heath Park, Cardiff CF14 4XN, UK
(e-mail: pearcesp@Cardiff.ac.uk)

1 Anon. Keeping women in hospital and academic medicine *Lancet* 2001, 358: 83.

Health Insurance in India

Sir—Dinesh Sharma's Aug 4 news[1] leaves the reader feeling unnecessarily pessimistic about the prospects of health insurance that will include India's poor. He quotes from an expert "Private health insurance is most likely not going to include lower economic classes, mainly because of their inability to pay premiums."

Private for-profit insurers, only recently allowed in India under the Insurance Regulatory Development Authority Act (1999), might target better-off sections of society with expensive packages. However, even among the poor, there is the need and willingness to pay for insurance that will cover the costs of uncertain, frequently expensive medical treatments that might otherwise result in indebtedness. Out-of-pocket medical expenses account for more than four-fifths of total health-care spending in India.[2] Members of lower socioeconomic groups generally spend a higher proportion of their yearly income on health than do more advantaged groups.[3] One admission to hospital can consume a sizeable share of a poor household's resources, commonly leading to financial crisis. This fact could explain why non-profit health insurance schemes run by non-governmental organisations have been able to attract the economically disadvantaged. Some of these schemes date back more than 50 years[4] and total coverage under the schemes in

CHAPTER 11

Role of Central Governments in Furthering Social Goals through Microinsurance Units

M. Kent Ranson and Sara Bennett

The authors acknowledge, with thanks, the useful comments on an earlier draft from Anne Mills, Head, Health Economics and Financing Programme, London School of Hygiene and Tropical Medicine and from Christian Baeza, International Labour Organization

It must be realized that community financing is, at best, only a partial solution, that it may be more difficult and less effective than reallocation of current resources, and that governments have to encourage and facilitate—not impose—it.
—WAYNE STINSON (1982, p. 42)

In microinsurance, people prepay some health care costs and, through revenue pooling, the healthy cross-subsidize care for the sick.[1] Government is responsible for the overall performance of the health system. It has a responsibility to steer microinsurance units (MIUs) so that they contribute to national health policy goals. Nonetheless, government involvement in MIUs varies tremendously from one country to another. Take, as examples of the two extremes of government involvement, the Health Card scheme in Thailand and the Bwamanda hospital insurance scheme in the Democratic Republic of Congo, both widely viewed as successful (Appendix 11A). Under the Thai Health Card scheme (between 1983 and 1994), financial management was conducted at the community level, but the design and implementation of the scheme (including setting of the premium and benefit package) were carefully laid out by the Ministry of Public Health (author's communication with Samrit Srithamrongsawats, 2000). In contrast, "the overall environment in which the [Bwamanda hospital insurance] initiative took place was characterized by the virtually total absence of the state, both in terms of resource allocation and in terms of planning, regulation, control, etc." (Criel 1998, p. 25). Based on the diverse experience of existing MIUs, what can be concluded about the optimal nature and extent of government involvement?

This chapter explores the mechanisms central governments can use to *facilitate* the development, sustainability, and impact of community-financed health insurance schemes (typically through ministries of health and social insurance schemes).[2] The first section establishes a theoretical framework for mechanisms between government and community-financed health insurance (MIU) schemes. The second section reviews other authors' views on facilitating mechanisms and reviews and analyzes existing mechanisms. The last section summarizes the findings and makes suggestions regarding options available to policymakers. Throughout the chapter, the focus will be on developing countries.

---

[1] Microinsurance is also referred to as *community-financed health insurance* and *mutual health insurance*. If a community-financing scheme includes prepayment, but no pooling, it is not an insurance scheme, but personal prepayment. For example, schemes that cover only preventive care (annual check-ups, prenatal visits) cannot be considered insurance and will not be discussed in this chapter.

[2] Discussion in this paper will be limited to schemes that are community-financed (via premiums collected from the beneficiaries) and which are owned and/or managed by a nongovernmental organization, or a *governmental agency* at the district level or below. We have excluded schemes that are owned and/or managed by central or state governments (including some of the schemes reviewed by Bennett et al. 1998).

Conceptual Framework

Clearly a first step in considering how central government can further social goals through microinsurance is to assess whether or not such schemes are effective and sustainable. There is a real shortage of solid empirical evidence on this question; those studies and reviews that have been undertaken suggest that many schemes are shortlived and fail even to meet the goals they set for themselves (Stinson 1982, Bennett et al. 1998). Despite this body of (less than positive) experience it would seem that several international agencies still view such schemes as a possible means to improve access to cost-effective health care, particularly among the poor. The discussion below is based upon the *assumption* that MIUs can, at a minimum, be a sustainable means to extend social protection in health, and therefore it is worthwhile for governments to consider how they can ensure that such schemes also serve broader social goals. Further research on the validity of this assumption—and under what conditions it holds, is critical to our understanding of the role that such schemes can play and consequently what government should (or should not do) to support them.

Figure 11-1 is a simple conceptual map of the associations between: the government's health systems goals; obstacles to promoting these goals through MIUs; and the categories of government mechanisms that can be used to overcome these obstacles. MIUs' two primary goals are: to respond to the beneficiaries' health/financial needs (e.g., improving access to care, preventing medical indebtedness, mobilizing health care resources, empowering consumers); and to be financially viable and sustainable (including the ability to absorb financial shocks such as the costs of an infectious outbreak).[3] The government's broader health systems goals, to which MIUs may be able to contribute, are: better health in the target population, fair financing, and responsiveness, for example, "reducing the damage to one's dignity and autonomy, and the fear and shame that sickness often brings with it" (WHO 2000, Chapter 2). Goals such as affordability, equity, accessibility, sustainability, and quality are proximal *(instrumental)* goals that are not intrinsically valuable but "are relevant rather as explanations of good or bad outcomes" (WHO 2000, p. 24). Similarly, democracy and participation are likely to be important determinants of the responsiveness of health systems, but are generally not considered goals of the health care system. The goals of the MIU and government may not coincide. For example, a government mandate for community-financed health insurance schemes to include the poorest individuals or households—in the interest of fairness of financing—might conflict with the schemes' goal of financial viability. Thus, when evaluating government mechanisms, it will be important to consider both sets of goals.

Another issue that requires further consideration, but lies somewhat outside of the scope of this chapter is whether or not investing in MIUs represents the most efficient means for government to achieve its social objectives. While MIUs may represent one path to achieve improved equity, accessibility, and so on, other paths (such as greater government financing of health care) may, overall, be preferable. Ideally, governments should consider the range of strategies available to achieve goals before opting to support or work with MIUs.

The extent of a government's commitment toward its social objectives is also important in determining whether, and how, it should become involved in MIUs. The following typology of government types is not fully developed, but will allow us to explore potential negative

[3]We have not included efficiency and equity as goals in themselves; efficiency underlies the scheme's ability to maintain financial viability, and equity may be defined differently and given different importance from one MIU to another.

impacts of government involvement in MIUs and the best ways to avoid such impacts. Governments run the gamut of intentions and executive competence and are invariably a combination of these three types:

Type 1—Well-intentioned and well-executed government. Governments of this type offer the best prospects for developing an environment where MIUs can serve social goals. However, despite the best intentions, government involvement can still change the nature of the scheme. Increased government regulation and control may change a community-financed scheme from bottom-up (participatory) to a top-down organization, where decisions are made centrally and handed down to scheme managers. Transparency, voice (or community participation), community ownership, and innovation may suffer. While some may consider community participation and ownership to be goals in and of themselves, there is also some evidence to suggest that community involvement can enhance the overall functioning of MIUs. In India, for example, successes of the Mallur Milk Cooperative scheme (Dave Sen 1997) and the ACCORD scheme (Prasad 1998) were attributed in part to community organization, ownership, and participation. Lack of community participation, and isolation of the scheme from traditional and political leaders in the area, may have contributed to the downfall of the Barpali Village Scheme (Stinson 1982). In Nkoranza, Ghana, the lack of community involvement in scheme management was thought to be one of several problems that contributed to problems within the scheme (Atim 1999). Even the best of governments may find it difficult "to remain neutral in its approach of the (sometimes tense) relationship between an insurer and a provider (who may be a government facility)" (Criel 2000, p. 44).[4]

Type 2—Well-intentioned but poorly executed government. State action often has unintended consequences, which create additional problems. For example, a government may enlarge or replicate microinsurance schemes, paying little attention to the traditional networks of social support that it is replacing. Likewise, government facilitation may prove harmful, if unstable or unreliable (e.g., a scheme that comes to rely on government subsidies may be hard hit if they are withdrawn after a change in mandate or administration). This raises the critical question of government capacity to support such schemes.

Type 3—Poorly intentioned government. Government intervention may prove harmful in settings where government is corrupt or self-interested. Bureaucrats may prefer government-provided health insurance (social insurance) where they have direct control over resources. Alternatively, the government may see MIUs as an easy source of income through extortion.

If government is corrupt, MIUs should avoid government mechanisms. Under Type 2 government, capacity building may be needed, its nature and extent depending on the situation. Under a Type 1 government, experience in other settings may provide government with lessons on ways it should, or should not, intervene.

A variety of other factors may act as obstacles to MIUs' operating successfully and contributing toward social objectives (Figure 11-1). *Contextual (environmental)* problems relate to the economic, political, social, or cultural context in which the scheme operates. People in a poor or unstable economic setting, for example, may be unable or unwilling to

[4] The parentheses within the quote are those of the original author.

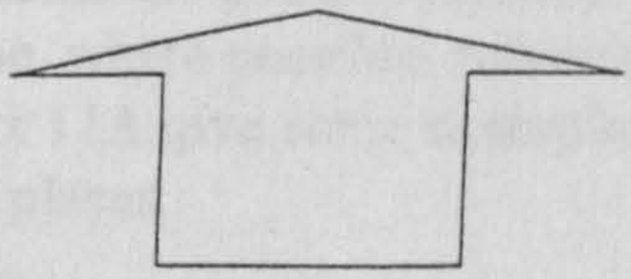
participate in an MIU. The classic problems facing all insurers include: adverse selection, moral hazard, *covariant risks* (risks affecting groups of households, communities, regions or nations), and unknown probability of illness (Barr 1998). Schemes may also fail to meet social objectives due to problems of design and management, for example, failing to increase premiums to keep pace with inflation and rising health care costs. Finally, MIUs may fail to contribute to social goals if they are not well integrated with the rest of the health care system. For example, a hospital-based insurance scheme may adequately cover the risks of a high-cost hospital admission, but in the absence of a network of preventive, primary, and referral services, it may function inefficiently or fail to attract the people who need it most.

Certain government mechanisms may lessen or overcome obstacles to the success of MIUs and their promotion of social objectives. The mechanisms used by government to facilitate MIUs can be categorized as: stewardship, creation of an enabling environment, and transfer of resources, both financial and nonfinancial. Stewardship covers: developing a policy framework; implementing relevant legislation; mandating or obliging someone to perform certain activities; monitoring and regulating the quantity, quality and/or price of insurance and health care; and generating and disseminating information on disease prevalence and treatment costs. The creation of an enabling environment is a broader concept that includes: ensuring economic and political stability; and preventing corruption in the legal, health care, and banking systems (these mechanisms are somewhat "soft" and generally fall outside the realm of the Ministry of Health). The transfer of resources to MIUs may occur directly, from government to insurer, or indirectly, from government to health care provider (usually government-owned) or the insured. Resources (financial or otherwise) may be transferred regularly or routinely or only when the scheme faces bankruptcy. Nonfinancial transfers include targeted technical or managerial support or provision of a re-insurance function, wherein groups of MIUs create a "solidarity" fund for protection against covariant risks.

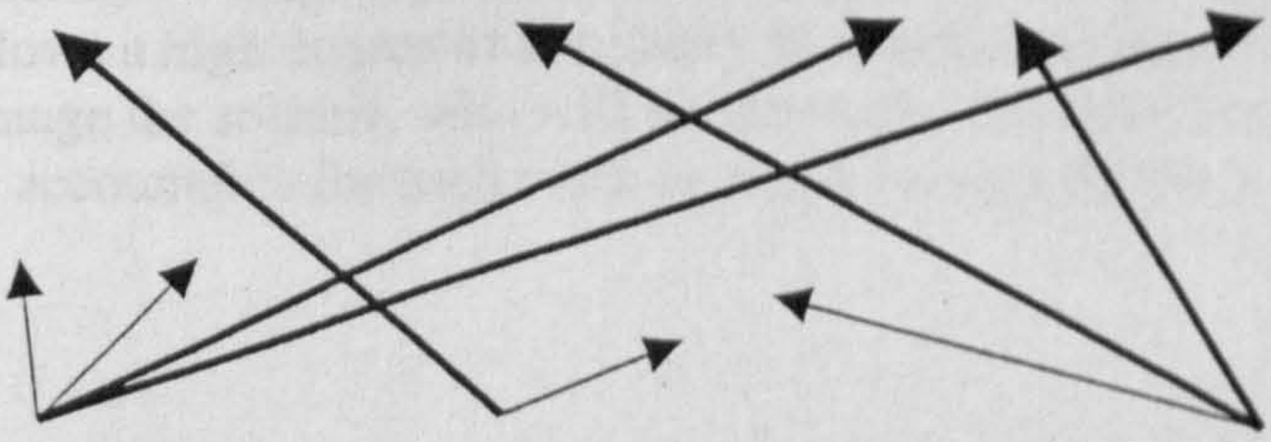
As indicated by the arrows in Figure 11-1, government stewardship mechanisms are usually directed toward controlling the price, quantity, and quality of insurance available on the market by regulating certain aspects of scheme design and management and ensuring that health insurers (and health care financing methods) are well integrated with the health care system. Government mechanisms that help provide an enabling environment for MIUs may counter the contextual problems (e.g., lack of interest or social capital in the target group) that hinder these schemes. Transfer of resources is most likely to tackle the "classic problems" of insurers (e.g., the provision of re-insurance to counter covariant risk), or problems of scheme design and management (e.g., targeted technical assistance, or financial bailout, when a scheme faces bankruptcy due to low premiums or overly generous benefits).

Figure 11-1 Government Goals for MIUs, Obstacles to Achieving Them, and Corrective Mechanisms

SOCIAL GOALS	Better health	Fairness in financial contributions	Responsiveness



OBSTACLES TO PROMOTION OF SOCIAL OBJECTIVES	Contextual problems • Lack of social capital or trust • Lack of interest among community members • Poor or unstable economic environment • Government disorganized around, or uncommitted to, health sector goals • Lack of support from government (legal, financial, technical) • Poor quality, inequitable, inefficient health care system (e.g., no sensible referral system)	Classic problems facing all health insurers • Adverse selection • Moral hazard • Probability of needing treatment not independent across individuals (especially problematic for smaller schemes) • Probability of certain common illnesses greater than one • Probability of most illnesses unknown (or inestimable) to microinsurer • Inequity—almost always via an incentive to exclude poorest *(cream-skimming)*	Problems of scheme design and/or management • Difficulties calculating premium and determining benefit package • Unaffordable premium • No investment strategy, high administrative costs, premiums lagging inflation • Failure to "strategically" purchase health care • Lack of external, objective monitoring	Fit/integration with rest of health care system • Lack of means by which to judge quality and legitimacy of care provided • Duplication of health care resources (e.g., creation of new hospitals where already there are many) • Failure to use of referral hierarchies to ensure efficient utilization of care



GOVERNMENT MECHANISM	Stewardship	Enabling environment	Resource transfer: direct or indirect, financial or nonfinancial

Potential and Actual Mechanisms for Influencing MIU Schemes

Here we describe more specifically each type of mechanism used by government to facilitate MIUs (stewardship, creation of an enabling environment, and transfer of resources, both financial and nonfinancial). Then we discuss the goals (both MIU and health system) to which they might contribute and describe, where possible, scenarios in which the mechanism has been used. Table 11-1 and Appendix 11A give some examples of ways these mechanisms have been used in different places.

Stewardship

In its stewardship role, government develops a policy framework and regulations, monitors MIU activities, and shares information.

Developing a policy framework. A policy framework should define the role MIUs will play in the bigger picture of health care financing as well as the roles of other stakeholders in MIUs (government, external donors, health care providers, and beneficiary groups). A framework should make clear *which populations* are best covered by MIUs and which populations the government will cover. For example, the Government of Thailand has clearly identified who should be covered by the Thai Health Card scheme (nonpoor, largely farmers) and who falls under other schemes (the poor, elderly, children, and formal sector workers (Appendix 11A). Government's policy must be well coordinated, and the state should avoid targeting safety net programs to specific types of individuals or households (e.g., children, the elderly) if doing so is likely to damage existing group schemes (World Bank 2001, p. 149)

The policy framework may further indicate the *types of health care interventions* best covered by a MIU, a topic still being debated. MIUs might best complement the government system by covering high-cost, hospital-based care in countries where the government health system focuses on providing an "essential package" of primary health care interventions (World Bank 1993). In countries where government hospital services are of acceptable quality and accessibility, MIUs might best fill in the gaps by covering primary-level curative care (at health centers, community hospitals).

In Guinea-Bissau, the Ministry of Public Health has outlined specific responsibilities for village leaders related to community-level prepayment schemes (Box 11-1; Eklund and Stavem 1995, pp. 210–11). The primary goal of the prepayment schemes in Guinea-Bissau is to improve the availability of drugs and first aid in "widely scattered" rural villages. The policy framework allows a high degree of autonomy in scheme management (the village decides who will manage the scheme, who will do the work, and what the premium will be) and holds the village accountable for such work as constructing a health post and replenishing initial drug stocks.

Box 11-1 Guinea-Bissau: Participant Responsibilities

The responsibilities defined by the Ministry of Public Health for participants in community health insurance prepayment schemes include:

- The village decides on the prepayment scheme fees (whether per capita, per adult or per household) and on the timing of payments.
- The village must collect funds under the prepayment system to ensure that initial drug supplies are continually replenished. Drugs are sold to USBs (village health posts) with substantial subsidies, set at the central level and equal across regions.
- Some villages create special health subcommittees to oversee USB operations, but in the smaller villages, the political committee executes those responsibilities.
- The village provides labor and most construction materials for building the health post. The Ministry of Public Health provides materials for windows, doors, and hinges.
- The government supplies simple equipment, including a metal cupboard for storing drugs, a bed, a stretcher, four chairs, one obstetrical stethoscope, one lantern, a kit of posters and other teaching aids, and an initial stock of drugs estimated to last for six months (for the population of each village).
- The village selects one or more residents to be trained as village health workers and midwives.

Source: Edlund and Stavem 1995, pp. 210–11.

Regulating MIUs. Government may regulate almost any function of MIUs, including: revenue collection (insurance price or premium), pooling, and purchasing of health care (contents of the benefit package, "quantity" of coverage for specific interventions, speed of reimbursement, nature of provider payment, quality of covered health care services). The World Health Organization, for example, argues that the pooling function of health insurers—which determines the extent of redistribution from healthy to ill, and wealthy to poor— can be maximized by regulations that enforce community rating (adjusting for the average risk of a group), portable employment-based pooling (insurance that a worker keeps when changing jobs), and equal minimum benefit packages (access to the same services in all pools) (WHO 2000, p. 103). Standard economic theory also sheds light on regulations that can be used to optimize the efficiency of MIUs. For example, Barr (1998, pp. 287–88) writes about government interventions for dealing with adverse selection and moral hazard.

A mandated activity is one that *must* be performed, and mandates are usually specified in law (Musgrove 1996, p. 6).[5] The Government of Bangladesh, for example, mandates that two large insurance schemes operating in the country (Gonosasthya Kendra health care system and Grameen health program) provide "preventive services, family planning and health education, free for all, irrespective of family subscription to the health insurance scheme" (Desmet et al. 1999, p. 928). The impact of this mandate—an attempt to improve equity of the health care system and provide priority preventive care—is not clear. The Gonosasthya Kendra (GK) system insures roughly one-quarter of its target population, yet the uninsured account for a disproportionately small 1.5 percent of GK clinic attendees (Desmet et al. 1999).

An alternative approach to mandating, which may be used to deal with adverse selection and moral hazard, is to require membership in a microinsurance scheme. Making insurance compulsory prevents low risks from opting out and the externalities caused by noninsurance. This could be done by starting coverage from before birth to cope with the congenitally and chronically ill; preventing insurance companies from withholding coverage from high-risk

[5] Regulation is different insofar as it determines *how* an activity may be undertaken, but a private producer can react to regulation by choosing not to undertake the activity at all (Musgrove 1996, pp. 6–7).

individuals; and regulating the conditions under which microinsurers could increase premiums. Key questions here are: how feasible is community-level mandating in developing countries, where many unknowns (e.g., income, population base) make social health insurance unfeasible; does mandating membership in a scheme automatically change the scheme's nature, so that it is viewed as a government imposition instead of a community initiative? In the district of Boboye, Niger, the Ministry of Public Health implemented a scheme in which people were required to pay an "annual tax" that was pooled at the district level, managed by a health committee (nongovernment), and used primarily to finance pharmaceutical products (Diop et al. 1995). Though not discussed by the study's authors, community participation in this pilot scheme seems to have been minimal.

Government regulation has occurred around many MIUs, but the literature provides only limited information on the reasons for such regulation and its impact. Until recently in India (January 2000), only state agencies were permitted to sell insurance. In the Former Soviet Republic of Georgia, only private health insurance companies may manage an insurance scheme. At least in the case of Georgia, this intervention would appear to be a case of poorly intentioned government (protecting the business of a few private insurers) instead of a government attempting to achieve social goals. Depending on the extent to which such restrictions are coupled with monitoring and enforcement, they can seriously hinder MIUs.

The monitoring and enforcement implicit in many regulations is resource- and skill-intensive and might not be feasible for many or most developing-country governments. This applies particularly to risk adjustment, ensuring a basic minimum benefit package, and community rating (WHR 2000). Evidence on the effectiveness of health sector regulation in developing countries is limited, but all that does exist points to major problems confronting government in implementing regulation (Mills et al. 2000, Chapter 7). Although regulating health insurance may be somewhat more straightforward than regulating health services, the difference is marginal, and lack of government capacity to regulate is a major constraint.

Several MIUs are reportedly subject to government accounting (Table 11-1), but it is not clear what actions would be taken toward the MIUs, based on financial information alone. This is presumably intended to catch any fiscal irregularities, and so protect the scheme's financial viability and its members. The UMASIDA scheme in Tanzania, like other health insurance organizations in the country, is registered with the Ministry of Home Affairs (van Ginneken 1997). Reporting and accounting of UMASIDA funds is controlled by the Cooperatives Act, but how these funds are "controlled" is not clear (Bennett et al. 1998). It would probably be quite straightforward to figure out what kind of control is exerted—but again this 'control' is probably of a very generic nature and does not help to achieve social goals in any broad way—but just to prevent misuse of funds. In some cases, governments have prepared essential drug lists limiting insurance-covered drugs (e.g., the PHACOM scheme in Madagascar, the Tarlac Health Maintenance Program in the Philippines, and the Lalitpur Medical Insurance Scheme in Nepal; Bennett et al. 1998). This can encourage efficiency (and also safety), and as a consequence, financial viability.

Monitoring and regulating health care. Governments can assist MIUs by indicating which providers (typically based on some quality-of-care measure) are eligible to enter into a contract with an insurer. This can help a MIU optimize the quality and efficiency of health care purchased. In selecting its providers, the Tarlac Health Maintenance Program in the Philippines uses the hospital accreditation requirements issued by the Philippine Medical Care Commission/Philippine Health Insurance Corporation (Bennett et al. 1998). Failure of

the Government of India to regulate or accredit hospitals means that some health care, financed under the Self-Employed Women's Association's Medical Insurance Fund, has been of poor, if not dangerous quality (Ranson and John 2001).

Information sharing. Government can provide information useful to insurers in setting premiums and benefit packages. This might include information on disease prevalence, relative quality of facilities, and relative or recommended cost of different interventions. Governments can also ensure that the parties responsible for the schemes have the opportunity to share experiences and discuss strategies. An "umbrella" body may serve as a useful partnership forum (Bennett et al. 1998). An example of such an umbrella body is the Uganda Community-Based Health Financing Association (Musau 1999).

Creating an Enabling Environment

The creation of an enabling environment, though clearly important, encompasses a broad range of activities. In fact virtually every government activity, from economic promotion to education, could be seen as contributing to an enabling environment. This vast range of activities cannot be covered here. We focus only upon activities directly linked to MIUs, social animation, legal recognition, and control of corruption.

Social animation. Government may act as a catalyst for helping disparate parts of the community work together. In Madagascar, the government agency l'Unité d'Appui Communautaire sensitized the community to set up the community-financed insurer, Associations des Amis de la Santé (AAS) (Bennett et al. 1998).

Legal recognition of businesses/ventures. To have legal status in many countries, schemes have to register as a club, cooperative, nongovernmental organization, or some other type of organization. Once registered, the scheme is formally bound by whatever regulations cover that type of organization. Normally, these regulations include some provision for presenting full accounts to members (and possibly to government). A legal framework should allow MIUs to establish contracts with health care providers and to seek assistance or compensation if a provider fails to fulfill the contract. The organization's status may also affect whether or not it pays taxes; if so, how much; and what happens to any profit (e.g., reinvested or distributed to members). These laws are part of government efforts to create an enabling environment for all types of businesses.

Control of corruption. Under-the-counter payments, if widespread, can present a significant barrier to the development of MIUs. For an MIU to operate successfully, providers must depend upon formal payments alone for their pay (otherwise beneficiaries pay double). However, providers are often reluctant to refuse informal payments, a large and tax-free addition to their income. Although it is generally thought that governments can play an important role in aiding the removal of informal payments, there are few concrete suggestions on ways to do so.

Transfer of Resources

Government can transfer resources to MIUs directly, indirectly, or through re-insurance.

Direct transfer. The government can make financial contributions directly to a MIU, either regularly or during financial crisis. In two cases, the NHI scheme in Korea and the Thai

Health Card scheme, government makes a matching contribution equal to the amount collected in premiums (Appendix 11A). Governments can also provide technical and managerial assistance to individual schemes. Technical skills may be required to: assess ability and willingness to pay; analyze cost and expected income; calculate fees, premiums, and other charges; measure utilization; develop systems (financial, management, or health information) for recording routinely all income and expenditures and conducting monitoring and evaluation. In the Philippines, the Tarlac Health Maintenance Program was provided technical assistance to prepare its benefit package and calculate premiums. Uganda's Ministry of Health provided the Kisiizi Hospital Scheme with technical assistance as well as computer equipment and peripherals. With financial support from the British Department for International Development (DFID), Uganda's Ministry of Health acted as financial guarantor to the Kisiizi Hospital Health Scheme up to a loss equivalent to Ush 18 million (US$13,300) during its first two years of operation. In 1997/98, the government contributed Ush. 10 million to the scheme in "compensation" for excess claims arising from a malaria epidemic (Musau 1999, p. 21). All these transfers would be likely to facilitate scheme financial viability. Some might also facilitate efficiency.

Indirect transfers. Indirect transfers through providers seem common, particularly where the providers are government-owned. Schemes where the government covers staff salaries at the health care provider include: the Cooperative Medical System in China, the Bokoro and Kongolo schemes in the Democratic Republic of Congo, the ASSABA, the Associations des Amis de la Santé (AAS) in Madagascar, and the Tororo Hospital Treatment Cards scheme in Uganda. Government can make financial contributions to households (or communities) and recommend or require (for example, by providing vouchers) that they be put toward community-financed health insurance. Such transfers may be risk equalizing, if they compensate for socioeconomic differences (and hence differences in risks) between households and regions.

"Tied transfers." Tied transfers (direct and indirect) are subsidies that encourage use of preventive care, primary care, and essential drugs (e.g., bicycles provided specifically for use in immunizations). The Government of Guinea-Bissau subsidizes the cost of the 12 essential drugs used by the Abota schemes. Similarly, the Government of Nepal supplies the Lalitpur Medical Insurance Scheme with its annual stock of essential drugs.

One important question concerns the best way for government to provide financial support—as direct subsidies to scheme, as indirect subsidies through providers, or as tied subsidies. Economists usually prefer untied to tied subsidies. Assuming a rational and fully informed insurer and insured population, and a competitive insurance market, insurers are theoretically more likely than government to use these funds efficiently, due to competitive market forces. However, it may be argued that subsidies would be more efficiently used if channeled through government providers or tied to certain goods or activities, considering the many imperfections of the health care market (e.g., information asymmetries, externalities, monopoly providers). This is related to the government's intentions (poorly versus well-intentioned) and effectiveness (poorly versus well-executed). Tied subsidies from a poorly intentioned or poorly executed government could hinder an MIU's ability to achieve social goals. For example, government subsidies for immunizations and other preventive care may deter an MIU from fulfilling the goals set by scheme planners and members such as protection from the high costs of hospital care. Similarly, subsidies channeled indirectly through government providers may not promote efficiency, if the government facilities are undersupplied and understaffed, as they often are. At present, there are not sufficient data to

suggest that one type of subsidy is superior to others. Research may help to determine the impact of different types of subsidy on health insurance and health care consumption, and ultimately, on the distal health systems goals.

Re-insurance. Government may set up a re-insurance scheme (or solidarity fund). Participating MIUs contribute to this pool, and the resources are used to finance unexpected expenditure (e.g., epidemics and other covariant risks). Government may establish this fund but not contribute to the pooled resources or establish the fund and make some contribution to the pooled resources (a combination of re-insurance and subsidy). Among developing countries, a re-insurance fund has been established only in Thailand. The Thai government has established a pool at the central level to facilitate risk sharing among provincial and community funds. The individual schemes send 2.5 percent of premium revenues to this central fund. This fund appears to be used either when people need health care outside their province of residence or costly services (e.g., referral to a university hospital). Due to managerial problems rather than a lack of suitable cases, this fund has been underutilized (only 10 percent of the fund was used in 1995 and 1996), according to Pannarunothai et al. (2000). Given the very limited experience, it is not clear what financial resources, managerial capacities, or broader institutional features a government would have to possess to successfully re-insure. It seems that while re-insurance may not place quite the same extensive demands upon government capacity as social health insurance, it still requires actuarial, financial, and regulatory skills, which are frequently lacking in developing countries. As an alternative to re-insurance—one for which the infrastructure is already in place in most developing countries—government could heavily subsidize the cost of what is perceived as necessary but high-cost care. Government ownership of public facilities where such services are provided obviates the need for re-insurance.

Table 11-1 Government Mechanisms in Use

Mechanism	*Place used and nature of mechanism*
Stewardship	
Developing policy framework	• GUINEA BISSAU—Abota Health Insurance Schemes. Clear government guidelines exist. • INDONESIA—Dena Sehat. Government provides guidelines and training packages. • KOREA—National Health Insurance (NHI) Class II scheme for self-employed and NHI Class IV scheme for rural populations. Government has played an important role in setting and implementing policy.
Mandating certain activities	• BANGLADESH—Gonoshathya Kendra and Grameen Health Program (Pilot Scheme)/Grameen Health Centres. Government directive to provide preventive services, family planning, and health education, free for all, irrespective of family subscription to health insurance.

Monitoring and regulating insurance	• GUINEA BISSAU—Abota Health Insurance Schemes. Scheme is subject to government accounting. • MADAGASCAR—Les Pharmacies Communautaires (PHACOM). Government establishes drug list (formulary) from which "PHACOMs" can order for their health centers. • NEPAL—Lalitpur Medical Insurance Scheme. Scheme is organized within regulations set by government. Government prepares essential drug list. • PAPUA NEW GUINEA—Pomio Government Health Centre. Scheme is subject to government accounting—officer in charge reports to Provincial Health Authority every six months. Government decides on categories of patients exempted from copayment (not premium). • PAPUA NEW GUINEA—Gaubin Health Centre. Financial reports, including both revenue and expenditure, are submitted at end of each quarter to provincial health office. • PAPUA NEW GUINEA—Tinsley Medical Insurance Scheme. Financial reports on both revenue and expenditure are submitted at end of each quarter to provincial health office. • PHILIPPINES—Federated Primary Health Care Mother's Club—Surigao City. It is registered with Securities and Exchange Commission and must maintain financial integrity. • TANZANIA—*UMASIDA*. Subject to government accounting procedures—Cooperatives Act controls fund reporting and accounting. Constitution of scheme has been approved by Ministry of Home Affairs. • UGANDA—Kisiizi Hospital Health Scheme. Ministry of Health evaluates scheme regularly and makes recommendations.
Monitoring and regulating health care	• PHILIPPINES—Tarlac Health Maintenance Program. Scheme follows hospital accreditation requirements issued by Philippine Medical Care Commission/Philippine Health Insurance Corporation. Department of Health provides essential drug list in National Drug Formulary, a list of reimbursable drugs and medicines. • TANZANIA—*UMASIDA*. Government plays implicit regulatory role by registering private providers and assuring they deliver quality care.
Enabling environment	
Ensuring economic and political stability	• CHINA—Cooperative Medical System. Central government had key role in establishing economic and social system conducive to formation of CMS.
Social animation	• MADAGASCAR—Associations des Amis de la Santé (AAS). Government agency, l'Unité d'Appui Communautaire, sensitized and mobilized community to set up AAS.
Transfer of resources	

Cash transfers	• KOREA—National Health Insurance (NHI) Class II scheme for self-employed and NHI Class IV scheme for rural populations. Government pays 50 percent of premium. • PHILIPPINES—Tarlac Health Maintenance Program. Channeled foreign assistance in preparation of management information system. • UGANDA—Kisiizi Hospital Health Scheme. Ministry of Health signed memorandum of understanding with hospital, undertaking to underwrite any scheme losses in first two years, up to a maximum of Ush 18,000,000 (US$13,300). Scheme would not be sustainable on membership fees alone (cost recovery 55 percent). Government has covered deficit. • CHINA—Cooperative Medical System. Central government paid staff salaries at higher level facilities. • CONGO, DEM. REP. OF—Bokoro. Government is responsible for "payment of some salaries." • CONGO, DEM. REP. OF—Kongolo Health Centre. Government pays salary of one nurse. • GUATEMALA— ASSABA, Community Health Financing Scheme. Primary care facilities are organized and financed by government. • INDIA—Voluntary Health Services, Medical AID Plan. Government finances 75 percent of community health project and 25 percent of hospital and ancillary services. • INDONESIA—Dena Sehat. Government continues to fund health care at health centers. • MADAGASCAR—Associations des Amis de la Santé (AAS). Government cofinances health posts. • MALI—Molodo (owned by government health center). Two of three nurses' salaries are paid by government. • PAPUA NEW GUINEA—Pomio Government Health Centre. Salaries are paid by government. • PAPUA NEW GUINEA—Palmalmal Health Centre. Salaries are paid by government. • PAPUA NEW GUINEA—Tinsley Medical Insurance Scheme. Government pays 80 percent of salaries and operating costs. • UGANDA—Tororo Hospital Treatment Cards. Government pays for all hospital operating costs, partially offset by user fees and premiums. • UGANDA—Pallisa Community Development Trust. Government pays for essential drug supplies, training and supportive supervision, and bicycles for immunization.
Nonfinancial transfers	• GUINEA BISSAU—Abota Health Insurance Schemes. Government subsidizes cost of 12 essential drugs and also provides some "simple equipment." Village health workers (primary caregivers under scheme) are nonpaid volunteers. They do receive training and supervision from government workers. • INDIA—Self-Employed Women's Association. For scheme's first two years, government (through semiautonomous Government Insurance Corporation) was responsible for both pooling and reimbursement, but not for revenue collection. Otherwise, no transfer of resources. • KENYA—Chogoria Hospital Insurance Scheme. Ministry of Health has provided technical assistance through Kenya Health Care Financing Project, funded by U.S. Agency for International Development. • NEPAL—Lalitpur Medical Insurance Scheme. Government supplies every health post with annual stock of essential drugs. • PHILIPPINES—Tarlac Health Maintenance Program. Government provided technical assistance in preparation of program's benefit package and premium calculation. • UGANDA—Kisiizi Hospital Health Scheme. Ministry of Health provided technical assistance as well as computer equipment and peripherals.

Source: Unpublished database compiled to write Bennett, Creese, and Monasch. (1998).

Summary, Discussion, and Conclusions

Sadly, despite the intense interest in the role of MIUs, empirical evidence is still lacking about the extent to which they can help serve broader social goals, and the circumstance under which they—rather than other tools at government's disposal—are likely to be the most effective means to pursue such social goals. Prior to implementing mechanisms to work with MIU's, governments should seriously consider whether this is the best strategy to further their objectives.

Having made this decision, governments can facilitate the development, viability, and impact of MIU's through a variety of mechanisms that have been used in developing countries. The objective in implementing the mechanism and the actual impact of the mechanism are rarely reported in the literature.

The most common type of mechanism is the indirect transfer of resources from government to the MIU, usually in the form of free or reduced-cost health care services at government facilities. There are also many reports of scheme regulation by government, but the precise nature of the regulation is often not evident. Seldom used mechanisms include re-insurance, legislation that confers official status on the schemes, mandates that would require schemes to perform certain activities or enroll certain populations, and mechanisms to share health-related information with schemes (e.g., on disease prevalence, cost of care).

With some confidence we can conclude that:

- Broad policy statements by government are helpful, particularly in creating an environment conducive to building confidence in MIUs (otherwise people may worry that schemes will be shut down)
- Regulation of MIU's should be embarked upon only with caution in developing countries. Given capacity constraints and the fact that regulation is so often perverted to serve private interests, it should be used with a very light touch. Tighter government control over schemes may stifle innovation and limit their variety, another reason for not encouraging too much regulation. Any regulation used should be simple and easy to understand.
- Mandating scheme membership, for example at the level of local or village government, is an interesting idea, but we have limited evidence on how it works and how feasible it is to implement in the contexts where MIU's can make the biggest contribution.
- Environment is important—but we have little understanding of the impact of government measures on environment (how frequently does government succeed at uniting disparate groups?) Nor do fully understand the effects of the environment upon the scheme (e.g., how important is trust among members, or between members and the insurer or provider, to the success of a scheme?).
- Technical assistance of adequate quality is desirable and not very controversial.
- Financial support is critical but it is not clear how this should be delivered. Is it best to provide financial support on a regular and sustained basis, or only when schemes are financially strained (for example, due to poor investment strategy, a disproportionately old or sick enrolled population, premiums set to low), or only when scheme are financially strained due to covariant risks? If governments provide support in the first two scenarios, they are at risk of fostering inefficiently managed schemes. However, this type of support may be required if governments do wish to encourage coverage of populations

that are poorer and at higher risk of illness. MIU's may require re-insurance against covariant risks, but the question is the whether, to what extent, and how re-insurance should be coupled with other forms of financial technical support.

International donors can do much to facilitate beneficial mechanisms between government and microinsurers.

- They can recommend that poorly intentioned governments (Type 3) stay away from MIU's.
- They can help build capacity among well-intentioned but poorly executed governments (Type 2).
- Among well-intentioned, well-executed governments (Type 1), they can recommend mechanisms discussed above, encourage research on the relative impact of mechanisms, and help disseminate the lessons learned.

Future research should examine the association between specific mechanisms and their impact on MIU goals (e.g., financial viability, consumer satisfaction) and health-system goals (equity, efficiency, universal coverage).

The optimal package of mechanisms will vary from one country to another, and within one country as it moves through different stages of development, particularly as health insurance coverage increases. For example, in a developing country with a small formal sector (5 to 10 percent of the population), government might best limit its activities to establishing a receptive economic and policy environment, perhaps including broad policy statements relevant to different actors in the health care system. As the formal sector grows, and the health care and health financing system grow more complex (encompassing some form of social insurance as well as for-profit and MIUs), government might implement targeted financial and nonfinancial schemes to facilitate MIU development and foster efficiency and equity. Once MIU's are well established, government might implement specific regulations to standardize the price, volume, and quality of insurance available in the country, with universal social security coverage the goal. (See Appendix 11A for a description of evolving government mechanisms around the Thai Health Card scheme).

APPENDIX 11A

Five Case Studies

INDIA—SELF-EMPLOYED WOMEN'S ASSOCIATION

References: Ranson (2001); Chatterjee and Vyas (1997).
Location: Ahmedabad, Gujarat, India

Members: The Medical Insurance Fund covers some 32,000 members in 10 districts. To join the Fund, one must be female, between the ages of 18 and 58, and a member of the Self-Employed Women's Association (SEWA), an organization of poor, self-employed women.

Scheme description: SEWA's Integrated Social Security Scheme was initiated in 1992. It provides life, medical, and asset insurance (against the loss of house or working capital in case of flood, fire, or communal riots). The Medical Insurance Fund is owned and managed by SEWA, a nongovernmental organization (NGO). Women joining the fund either pay a yearly premium or a fixed deposit. For *hospitalization* (outpatient care is not covered), the insured seeks care from the public or private provider of her choice and pays out-of-pocket for the hospitalization at the time of discharge. She must then submit doctors' certificates and receipts to SEWA. If the claim is approved, the insured receives reimbursement to a maximum of 1,200 rupees. Certain chronic ("preexisting") diseases are excluded from coverage. Women who join by paying the fixed deposit (instead of the annual premium) are entitled to certain special benefits (e.g., reimbursement for cataract surgery, hearing aids, and dentures).

Government mechanisms: *Initially technical support, now nothing.* During the first two years of the scheme (1992–94), SEWA collected premiums and passed them on to the United India Insurance Company (UIIC), a semiautonomous government agency. The UIIC was responsible for reviewing claims, deciding the amount of reimbursement, and making the reimbursement. A number of problems were responsible for the discontinuation of this partnership: women often could not produce the documentation required; collecting the documentation involved high travel and photocopying costs; claims were often processed late; and the UIIC did not cover certain types of hospitalization (e.g., occupational illnesses and gynecological diseases). Today, government plays a minimal role: no regulation of health care or (nonprofit) health insurance providers and no financial or technical transfers.

UGANDA—KISIIZI HOSPITAL HEALTH SOCIETY

Reference: Musau (1999).
Location: Rukungiri district of southwestern Uganda.

Members: 6,580 individuals (in 1,400 households in 32 Engozi (burial and ambulance) societies). The target population is the 100,000 people living in the catchment area of this 180-bed, Church of Uganda mission hospital.

Scheme description: The Kisiizi Hospital Health Society (KHHS) was launched by the minister of health in August 1996. The scheme is managed by the hospital (two full-time staff in the Community-Based Health Care Department) with inputs from chairmen of Engozi societies. Premiums are collected every three months by local Engozi societies. Premiums vary according to family size. Benefits include discounts on outpatient and inpatient care at Kisiizi Hospital and outreach clinics (including chronic diseases and delivery, if the patient goes for regularly scheduled check-ups). Members pay only the copayment fee on a hospital admission; the scheme pays the hospital directly for the rest of their treatment.

Government mechanisms: *Stewardship, financial and nonfinancial transfers.* The scheme is recognized and supported by the Ministry of Health and actively supervised through its Planning Department. How the Commissioner of Insurance views the schemes in Uganda is not yet clear. The Uganda Community-Based Health Financing Association is clarifying this and other legal issues on behalf of all the member schemes.

At the inception of the scheme, the Ministry of Health, through funding from the British Department for International Development (DFID), agreed to underwrite losses during the first two years up to a maximum of Ush 18,000,00 (US$13,300). The MOH also implicitly accepted responsibility for losses arising from epidemics and reimbursed the scheme for a loss of Ush 8.5 million from a malaria epidemic in 1998. The MOH also provided computer equipment and peripherals, and under the DFID project, technical assistance.

RWANDA—PILOT SCHEMES IN THREE DISTRICTS,

Reference: Schneider et al. (2000).
Location: Three of Rwanda's 40 health districts (Kabutare, Byumba, and Kabgayi).

Members: 88,000 members in first year of operation. The target population is the 1.1 million people living in the three districts.

Scheme description: Initiated in 1999, the schemes are managed within communities, usually in collaboration with health care providers. By paying an annual premium of FRw 2,500 per family, members are entitled, after a one-month waiting period, to a basic (government or church-owned) health center package, covering all services and drugs provided at their preferred health center; ambulance referral to the (government or church-owned) district hospital; and a limited package at the district hospital (C-section, overnight stay, physician consultation). Members pay a copayment of FRw 100 per episode of care at the health center. Prepayment schemes reimburse health centers by capitation payment and the hospital by a per episode payment.

Government mechanisms: *Stewardship, financial, and nonfinancial transfers.* Rwanda's National Health Policy of 1995 laid the groundwork for developing and implementing community-based health financing schemes. The MOH launched the prepayment schemes and conducted an awareness campaign (newspaper, radio, TV) in the three districts. A steering committee of government, donor, church, and community representatives from the central and regional levels plays the role of the strategic decision maker, overseeing the development and implementation process. At the district level, community representatives, meeting in workshops, discussed the health care services that they thought should be covered, and sent their findings to the steering committee. Based on these findings, the steering committee wrote the by-laws, the schemes' legal basis, and the contract between prepayment schemes and providers.

Funded by the U.S. Agency for International Development (USAID), the schemes receive extensive technical support and monitoring through the MOH, but no government money. Health facilities receive about 10 percent of their total revenue from the government in the form of salaries paid to government employees at the health center.

THAILAND—THAI HEALTH CARD SCHEME

References: Pannarunothai et al. (2000); author's communication with Samrit Srithamrongsawats.
Location: Thailand, countrywide.
Note: The scheme was "community-based" between 1983 and 1994. Now it is "owned and managed" by the Government of Thailand

Members: 1.24 million members (25 percent of the target population). The target population is farmers and workers in the informal sector.

Scheme description: Established 1983 as a pilot study, the scheme, designed by the Government of Thailand, was expanded to the whole country in 1987. From 1983 to 1994, the fund was managed at the community level; now it is managed at the provincial level. The scheme covers comprehensive basic health service packages, excluding some dental and cosmetic health services as well as services in the private wards. Cardholders have to go to designated public facilities for care.

Government mechanisms: A pre-health card entitles the bearer to health care. Thailand had previously had a good deal of experience with village drug funds, nutrition funds, sanitation funds, and mother-child health funds.

Phase 1 (1983–87). Initially, the premiums, collected by health volunteers, were retained at the community level. The unit of membership (individual versus family), cost of the card, and benefits covered varied considerably from province to province and within provinces. The government did not provide direct subsidies to the scheme. However, because all health care purchased under the scheme was public, indirect transfers were likely through the government providers. The Ministry of Public Health (MOPH) was involved in monitoring and evaluation, with support from German Technical Cooperation (GTZ), perhaps more so in project districts.

Phase 2 (1987–94). The health card scheme was incorporated into the structure of the Sixth National Health Development Plan in 1987. In 1991, a Health Insurance Office was established at the MOPH to execute the National Health Card Programme. A formal information system was introduced in project provinces. Schemes were managed at the provincial level, but provinces also "agreed" on card price, beneficiaries, benefit packages, referral requirements, and fund management and allocation.

Phase 3 (1994 to present). Now managed at the provincial level, the scheme receives a 50 percent ("matching") government subsidy. The original scheme was strictly regulated, with minimal community participation, but no direct transfer of financial resources. Now, the government closely coordinates and monitors the scheme. Nonpoor, largely rural people are covered by the health card scheme. The poor, the elderly, children, and formal sector workers are covered separately. Premiums and benefit packages are standardized. To facilitate portability of card holders and risk-sharing among provincial funds, risks are pooled at the central level, and 2.5 percent of total premiums goes to the central fund (started in 1995).

DEMOCRATIC REPUBLIC OF CONGO—BWAMANDA HOSPITAL INSURANCE SCHEME

Reference: Criel (1998).
Location: Northwest of the Democratic Republic of Congo.

Members: Roughly 60 percent of the population is covered. The target population is the 159,000 (1994) people living in the district.

Scheme description: The scheme was launched in 1986 by "district health authorities." Members pay a community-rated premium once a year. The household is the subscription unit. Risk coverage is limited to hospital care, with a 20 percent copayment rate.

Government mechanisms: *Minimal* (Criel 1998, p. 24). Under the Zairian decentralization policy, health districts were to be largely self-financed. The overall environment in which the initiative took place was characterized by the virtually total absence of the state, both in terms of resource allocation and in terms of planning, regulation, and control. This de facto vacuum left district teams with almost complete autonomy to manage (or not manage) the health systems for which they were responsible.

References

Akin, J.S.; N. Birdsall, et al. 1987. *Financing Health Services in Developing Countries: An Agenda for Reform.* Washington: World Bank.

Barr, N. 1998. *The Economics of the Welfare State.* Oxford: Oxford University Press.

Bennett, S.; A. Creese; R. Monasch. 1998. *Health Insurance Schemes for People Outside Formal Sector Employment.* Geneva: World Health Organization, Division of Analysis, Research and Assessment.

Carrin, G.; M. Desmet; R. Basaza. 2000. "Social Health Insurance Development in Low-Income Developing Countries: New Roles for Government and Nonprofit Health Insurance Organisations (with Reference to Selected Experiences from Africa and Asia)."Chapter prepared for International Social Security Association. ed., *Building Social Security: The Role of Privatisation.* Geneva: ISSA. Forthcoming.

Chatterjee, M., and J. Vyas. 1997. *Organizing Insurance for Women Workers: The SEWA Experience.* Ahmedabad: Self Employed Women's Association.

Criel, B. 2000. "Local Health Insurance Systems In Developing Countries: A Policy Research Paper." Antwerp: Departement Volksgezondheid Instituut voor Tropische Geneeskunde. Commissioned by the Directorate-General International Cooperation, DGIC, Brussels.

———. 1998. "District-Based Health Insurance in Sub-Saharan Africa: Part II, Case-Studies." *Studies in Health Services Organization and Policy* 10: 1–91.

Dave Sen, P. 1997. "Community Control of Health Financing in India: A Review of Local Experiences." Bethesda, Md. Abt Associates Inc.

de Ferranti, D. 1986. "Paying for Health Care in Develoing Countries." Washington: World Bank.

Desmet, M., A.Q. Chowdhury; and K. Islam. 1999. "The Potential for Social Mobilisation in Bangladesh: The Organization and Functioning of Two Health Insurance Schemes." *Social Science and Medicine* 48 (7): 925–38.

Diop, F.; A. Yazbeck; and R. Bitran. 1995. "The Impact of Alternative Cost Recovery Schemes on Access and Equity in Niger." *Health Policy and Planning* 10 (3): 223–40.

Eklund, P., and K. Stavem. 1995. "Community Health Insurance Through Prepayment Schemes in Guinea-Bissau." In P.R. Shaw and M. Ainsworth, eds., *Financing Health Services through User Fees and Insurance: Case Studies from Sub-Saharan Africa.* Washington: World Bank: 207–20.

Mills, A. 2000. "Reforming Health Sectors: Fashions, Passions and Common Sense." *Reforming Health Sectors*. London: M.A., Kegan Paul International.

Musau, S. N. 1999. Community-Based Health Insurance: Experiences and Lessons Learned from East and Southern Africa. Bethesda, Md.: Abt Associates Inc.

Musgrove, P. 1996. *Public and Private Roles in Health: Theory and Financing Patterns.* Washington: World Bank.

Nitayarumphong, S., and A. Mills, eds. 1998. *Achieving Universal Coverage of Health Care: Expereinces from Middle and Upper Income Countries*. Nontaburi, Thailand: Ministry of Public Health, Office of Health Care Reform.

Pannarunothai, S.; S. Srithamrongsawad; M. Kongpaen; P. Thamwanna. 2000. "Financing Reform of the Thai Health Card Scheme." *Health Policy and Planning* 15 (3): 303-311.

Prasad, K.V E. 1998. "Health Insurance for Tribals: ACCORD's Experience in Gudalur, Tamil Nadu." In W. van Ginneken, ed., *Social Security for All Indians*. Delhi: Oxford University Press: 77–97.

Ranson, M.K. and K.R. John. 2001. "Ensuring the Quality of Hysterectomy Care in Rural Gujarat: What Can a Community-Based Health Insurance Scheme Do?" *Health Policy and Planning* 16 (4): In Press.

Schneider, P.; F. Diop; B. Sosthene. 2000. *Development and Implementation of Prepayment Schemes in Rwanda.* Bethesda, Md.: Abt Associates Inc.

Stinson, W. 1982. "Community Financing of Primary Health Care." *Primary Health Care Issues* 1 (4): 1–90.

Van Ginneken, W., ed. 1997. "Social Security for the Informal Sector: Investigating the Feasibility of Pilot Projects in Benin, El Salvador, India and Tanzania." *Issues in Social Protection.* Geneva: International Labour Office.

World Bank. 2001. *World Development Report—2000/2001: Attacking Poverty.* Oxford: Oxford University Press.

———. 1993. *World Development Report—1993: Investing in Health.* Washington: World Bank.

WHO [World Health Organization]. 2000. *The World Health Report 2000: Health Systems: Improving Performance.* Geneva, WHO.